

2009 F1 Jedi Owners Manual

At Canfield Brothers, we have taken great care to ensure you are riding the highest quality downhill bike period. As with all high performance machines, you will need to periodically inspect your equipment to eliminate unnecessary repairs and failures. If after reading this manual you have any questions or comments contact Canfield Brothers. It is our goal to ensure every customer is thrilled with Canfield Brothers products and customer service.

Formula 1 Specific Parts:

Seat Post- 30.9mm diameter

Seat Clamp- 34.9 or 35mm inside clamp diameter

Bottom Bracket- 83mm shell, 128mm spindle

Shock- 8.75" eyelet - eyelet, 2.75" stroke

Rear Hub- 150mm wide, 12mm thru axle (axle included with frame)

Chain Guide- MRP G2, E-13 guides and others with **wide** type boomerang.

F1 Jedi Parts Selection and Tuning:

The most important thing you can do to ensure proper handling is to select components that work well for the type of riding you are doing with your F1 Jedi.

The Formula 1 is designed to use **26" wheels** front and rear. A 24" wheel in the rear will make the head tube angle too slack or slow steering and two 24" wheels will make the bottom bracket too low. We recommend not using anything but 26" wheels.

The **front fork** needs to be the correct length to give you the proper angles for the type of riding you are planning to do. A front fork is measured from the center of the axle to the top of the lower crown.

A relatively **short** front fork with a length of 550mm gives the F1 Jedi a head tube angle of 66.2 degrees, which will steer quicker and work better for railing corners. It will accelerate quicker and positions your weight further forward for an aggressive race stance. Most people will find this fork length too short.

A **longer** fork with a length of 570mm gives the F1 Jedi a head tube angle of 65.3 degrees, which will steer slower and feel more stable at speed. It will lengthen the wheelbase and position the wheel path, more rearward, to be more capable of bigger drops. It's like a moto gassing it when they land a big jump! It feels the most balanced with a 570mm fork.

A **very long** fork with a length of 584mm gives the F1 Jedi a head tube angle of 64.6 degrees, which will steer slow. It will position your weight very far back for a cautious stance and allow the rider to compress the rear easily.

Any fork that is longer than 590mm will void your warranty.

Protect your investment and install fork bumpers on your frame. You can buy small clear self-adhesive bumpers from most any home improvement store that will stick on the down tube where the fork hits the frame. They are cheap and look good and will save your beautiful new F1 Jedi!

The **rear shock** is a 8.75" eyelet to eyelet by 2.75" stroke shock. The stock shock is a Fox DHX 5.0 but most all popular rear shocks will fit this frame. Contact your local dealer or Canfield Brothers for detailed information.

Proper spring rate is very important when setting your bike up. The leverage ratio is 2.8 to 1 with a 2.75" stroke shock giving a total of 7.75" of travel. Your body weigh times 2.8 gives you your maximum spring

rate. So you **weigh** $150\text{lb} \times 2.8 = 420 \text{ lb spring}$. Normally you would use the next spring rate down so in this case, a 400lb spring would be your preferred rate. However with modern shocks, the compression valving works well enough that you can run another spring rate lower, if you prefer an extra soft feel. All rear suspensions feel best with the proper spring rate and a minimum of spring preload.

With the proper spring rate, now adjust the **compression damping** to be as little as possible without the bike bottoming harshly. Compression damping only compensates for slightly too soft of a spring rate and to resist bottoming. Excessive compression damping will make the suspension harsh, skipping across the terrain instead of smoothly tracking the ground.

Rebound damping is to keep the bike from returning to top-out so quickly that you bounce. Excessive rebound damping will pack-up, pull you down in the travel over consecutive bumps. Correct rebound will allow the tire to follow the ground. Start with a setting that slows the rear slightly on return without topping-out hard. Adjust from there and try many settings to find what works best for you and your riding style.

The F1Jedi is a slightly progressive suspension so the rear shock should be adjusted to be mostly linear. For shocks with an **air volume adjustment**, the chamber is adjusted to be large. If you bottom excessively, make the air volume smaller for a more progressive feel.

The Canfield parallel link suspension is designed to be anti-bob during pedaling. A platform shock works well in the F1 but is not necessary for a stiff pedaling feel. If you have a platform shock, adjust your **platform threshold** to be light pressure at first and stiffen it if you feel the F1Jedi is too active under acceleration.

If you have **high speed / low speed damping**, the preferred setup is very little low speed damping to allow the wheel to track rough terrain and only as much high speed damping as is needed to resist bottom-out.

The **Seat Post** is a 30.9mm diameter. You can make your bike fit you better by selecting a post design that complements your height and riding style. If you are tall and need a bigger feeling frame, a post with an off-set head will give you extra cockpit length but may not be as strong as a straight up head. Most people under 6 feet tall will want a seat post head that is straight up for a smaller feel and a stronger post.

Building your F1 Jedi:

On every thread on the frame, use the blue locktite in the small bottle which is included with your frame. On the shaft of the axles, a thin coat of grease or lube can be used to ease assembly and removal later on. Try to keep the locktite and grease away from each other.

Your F1 Jedi comes pre-assembled. When you disassemble your bike, pay attention to how it comes apart and where everything goes. The following is for assembling the frame from scratch.

First install the lower link to the front frame. Position the link with the shock tabs up and back. It uses one of the long 20mm axle included.

Second, attach the rear triangle to the lower link using the other long 20mm axle. This design allows you to be able to disassemble the pivot later without removing your cranks.

Third, attach the upper link to the rear triangle using two of the short 20mm axles. Position the link so that the narrow end is forward and the assembly cutouts are down. If installed upside down, it could collide with the seat tube on compression and damage the frame.

Forth, the upper forward pivots can be attached with the 2 remaining short 20mm axles, one on each side.

Lastly, slide the shock into the frame from the non driveside with the canister positioned forward and down. Thread the shock bolt into the lower link and install the upper shock pin and bolt.

You're ready to start adding your parts!

Minimum **Seat Post** insertion is 4 inch's or 100 mm. Riding your F1Jedi with less insertion than recommended could bend your frame and void your warranty.

Inspect the **Head Tube** before installing the head set. Your new F1 Jedi comes from Canfield Brothers freshly reamed and faced with no paint on any surfaces where the headset will touch. If you are running a deep insertion headset, check that the head tube is reamed deep enough. If not, have a qualified shop or

Canfield Brothers ream it deeper.

Inspect the **Bottom Bracket Shell** before installing the bottom bracket. Your new FIJedi comes from Canfield Brothers with freshly cut and anodized threads. You may want to have a shop chase the threads but it isn't usually necessary. Apply assembly grease to the threads before installing the bottom bracket. This will help insure long thread life in your frame. Install the cups and spacers. Be sure to get the cups started straight in the threads and that you have the correct cup in the correct side of the bottom bracket shell. Cross threading your frame is not covered under your warranty.

Chain Guide setup is very important to keep your chain line straight and free from drive-train issues. If you are unsure about this step, have a qualified mechanic or your local downhill specialty shop set up your chain guide.

The upper sprocket is attached directly to the main frame with no spacers. (Test fit everything and only if needed, add no more than 2 washers behind the upper sprocket.)

Attach the backer plate to the ISCG05 tabs at the bottom bracket but do not tighten it yet.

Test fit the crank, with chain ring, guide rings and chain to verify the upper sprocket and the main chain ring line up. Add washers behind the chain guide backer to fine tune the space between the chain ring and guide. The gap should be less than the width of the chain to eliminate chain suck.

Once you have the chain line straight, rotate the backer plate back so that the chain feeds into the upper guide with no resistance and the chain exiting the guide doesn't touch the chain stay. Mark the chain guide backer position and remove the cranks so you can tighten the backer onto the ISCG tabs. A lot of times you can reach through the crank spider with a long allen and tighten the backer without removing the cranks. Reinstall the cranks and double check that everything is tight and the chain line is straight and nothing rubs. If you have any questions about proper setup, contact your Canfield Brothers dealer or Canfield Brothers directly for more assistance.

The **Rear Wheel** is a 150 spacing x 12mm axle hub. The frame comes with a 12mm axle that simply threads into the drive side replaceable dropout. After the wheel is in place, tighten the pinch clamp on the disk side dropout to lock the axle in place and eliminate it's ability to flex.

Finally, check all the bolts on the entire bike before riding. Even the most experienced mechanic can miss something.

General Post Ride Inspection:

Bearings are wear prone items and should be inspected after every ride. To quickly check your bearings for failure, look at the 20mm axle head in the link. It should sit centered in the bearing and centered in the end of the link. If it is not centered your bearing is blown and you should replace **all** the bearings in the links. (See Bearing Replacement) If one blows, the others are not far behind. The typical bearing should last more than one year unless it is being abused or ridden in wet and/or extremely dirty conditions. Complete disassembly and inspection should be done at least once a year and more often if ridden frequently. Contact your local Canfield Brothers Dealer or Canfield Brothers directly to get replacement bearings. Neglecting a blown bearing will void your warranty.

Shock bolts are damage prone and should be inspected after every ride. To quickly check you shock bolt for straightness, put an allen wrench on the shock bolt and turn it. You will see a "hop" in the shock if the bolt is bent. A bent bolt will significantly shorten the shock eyelets life and could cause more damage to the frame and link if not replaced. Shock bolts are cheap and easy to find at your local bolt supplier so if in question, just replace it.

Axles rarely need to be tightened but for the first few rides checked for tightness after every ride. If you have an axle that keeps loosening up during riding, remove it, clean the axle and socket and apply blue locktite to the axle. Reinstall the axle and keep an eye on it for the next few rides.

Bearing Replacement:

To replace the bearings you will need to remove all the links. You will want to replace all the bearings in

all the links at once. If one blows then the rest are ready to go. This step should be performed by a competent mechanic. Press the bearing out, making sure that you push it out evenly. You can ovalize the bearing seat if care isn't taken. A press will damage and/or bend your link if care isn't taken. A hand press is recommended. Clean the outer race of your new bearing and bearing surface on the link to remove any grease. Apply blue locktite to the bearing surface and push the new bearing in. This will insure the bearing can be removed later without seizing. Check that the inner race on the bearings spin freely. Now apply blue locktite to the axles before reinstalling them to lessen the chance of them loosening up. Reinstall the links and loosely install all the axles. After all the axles are started, continue to tighten them until they are tight.

Warranty Information

Thank you for choosing a Canfield Brothers performance mountain bike. We are sure you will get many years of enjoyment from your new purchase. It is important that you keep a copy of your original receipt as your record of ownership in the case of a potential claim and always consult you dealer first and then Canfield Brothers if there is no local dealer.

Canfield Brothers warrants each new Canfield bicycle frame against defects in workmanship and materials for one year from the purchase date of the original owner. We want our customers to know that if anything happens to your Canfield Brothers frame that we will do everything we can to get you back riding as soon as possible with the least amount of hassle and money out of your pocket.

This warranty is limited to the repair or replacement of a defective frame and is the sole remedy of the warranty.

This warranty applies only to a bicycle purchased from a retailer authorized by Canfield Brothers or directly from Canfield Brothers.

The warranty does not cover normal wear and tear, improper assembly, lack of maintenance or installation of parts and accessories not originally intended for, or compatible with the bicycle as sold. Specifically the fitting of suspension forks with travel longer than 200mm.

Canfield Brothers reserve the right not to warranty frames which in their opinion have been used outside of normal riding conditions. This includes but is not limited to excessive drops, crashes or improperly installed components.

The warranty does not apply to damage or failure due to accident, abuse or neglect.

Canfield Brothers shall not be responsible for incidental or consequential damages.

Claims under this warranty are to be made through an authorized Canfield dealer or Canfield directly. The bicycle frame must be returned to Canfield Brothers Bikes via the authorized Canfield dealer to allow inspection of all the components and parts. Do not dis-assemble the bicycle prior to inspection! Proof of purchase is required and must be received by Canfield Brothers Bikes before warranty claims can be processed.

Canfield Brothers will provide a crash replacement frame to the original owner for a nominal fee if determined to be outside of the warranty provided.

Please note that this warranty applies only to the original owner and is not transferable.

Lance and Christopher ride hard, like you do, and as such, know what normal riding is and what is flagrant abuse. Please be upfront with us and we will do everything in our power to help you get back riding quickly as possible with the least amount of money out of your pocket! We value all our customers so if you have any questions or comments, e-mail us at info@canfieldbrothers.com. **LET'S RIDE!**

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