

# VEER SPLIT BELT M1 OWNER MANUAL

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## 1. What is Split Belt M1

The Split Belt M1 is a synchronous carbon fiber belt drive technology designed with you in mind. The world's first belt splice system for bikes. The conversion kit includes a front belt ring compatible with 5-bolt 130mm cranks, and rear sprocket compatible with standard 9-spline freehubs. It also includes a unique frame-mounted tensioner that provides belt guidance and improves performance and usability. You're just a few steps away from ditching your dirty chain for a more refined cycling experience.



### 1.1 Why Split Belt M1?

Finally, a belt drive that fits the bike you already own. Crafted from the most robust materials and engineered for the harshest environments, the split belt M1 doesn't require continuous upkeep once mounted correctly. There is no grease, no mess, and no rust, so going chainless is painless. The belt performs well in all conditions, including mud, snow and rain. Belt drives typically have two to four times the lifetime of chains. The drive train is responsive, clean, lighter, less maintenance, and quiet. We make it easy for you to upgrade your bike to a fun, smooth ride.

### 1.2 Care for Your System

- Wash with water to get rid of dirt and grime.
- Do not use any lubrication on your belt.
- Do not roll on or pry on the belt.
- Do not twist, crimp, or bend the belt.
- Ends of the belt splice are fragile prior to riveting, handle with care.
- Once riveted, store as a coil before you rivet it.
- Acceptable temperature range for your belt is -65°F (-53°C) to +185°F (+85°C)



## 2. Required Knowledge Before Installation

Disclaimer: Previous knowledge of bike maintenance is advised prior to installation.

We can also help you locate a bike shop that is qualified to install this drive. Depending on your location, we may also be able to dispatch mechanics to install it for you. Please contact us!

### Tools Needed

We've already put in the time in to find the best tools required for your conversion. Reach out and chat with one of our staff members if you need advice on what tools work best for you.

- Cassette Lock Ring Tool
- Chain Whip

- Riveter (A specialized riveter is required. Please order it from us)
- Chain Breaking tool (not required if your chain contains a master link)
- 2.5 mm, 4 mm, 5 mm, 6 mm hex wrenches and T15, T20, T25 Torx wrenches may be required, depending on your components. These can usually be found together on a bike multi-tool)

### 3. Pre-Installation Removal Process

Before being able to install your Split Belt M1, you must first remove the set of chain functioning components on your bike. The components that need to be removed are your Cassette, Chain, Derailleur, Shifter and Chain Ring. More info on how to remove each of these components is below.

#### Rear Wheel Removal

1. Loosen quick release nut
2. Gently remove wheel and place aside

#### Chain Removal (Change your life!)

Identify whether your chain has a quick link or a split link. If it has neither, remove via a regular link.

- **If you have a Quick Link:**



1. Identify the quick link.
2. Get quick link pliers or a set of pliers able to fit inside your chain.
3. Insert pliers into the chain and press so that the rivets slide into the larger holes on the quick link face.
4. Slide chain apart.

- **If you have a Split link:**



1. Identify the Split Link.
2. Use pliers to press on the rivet and on the side of the locking plate until the locking plate slides off the rivets.
3. Slide the face plate off the rivets.
4. Slide chain off the backing link.

- **If you have a Regular Link:**



1. Insert chain into chain breaking tool. Pic of chain in chain breaking tool
2. Use chain breaking tool mechanism to press pin through the chain. Do not push the pin all the way through the chain.
3. The chain should pull apart once the pin clears the inner link.

### Cassette Removal

1. Remove the rear wheel
2. Remove Rear wheel skewer
3. Using a chain whip to hold the cassette in place, insert the Cassette Lockring Tool into the cassette lock ring splines and rotate counter clockwise to remove the cassette lock ring.
4. Slide the full cassette off the freehub body.



### Derailleur Removal

1. Loosen clamp bolt on shifter cable (optional, if you have full external cable routing).
2. Remove bolt holding derailleur onto the derailleur hanger.
3. Remove derailleur.



### Shifter Removal

1. Unscrew clamp bolt holding the shifter in place on the handlebars.
2. Slide shifter off the handlebar.
3. Pull cable and cable housing through all cable fixtures on your bike. Depending on how your shifter cable is attached you may need to cut zip ties or just feed the cable and housing through the cable housing on your bike. (You may leave cable routing on your bike if you wish)

### Chainring Removal

1. Loosen and remove chain ring bolts
2. Slide chain ring off spider and set aside.

**Proceed to Split Belt Installation section (after taking a snack break)**

## 4. Split Belt Installation

To convert your bike to a belt drive, you must mount the belt-specific front sprocket (belt ring), rear sprocket, and tensioner. Once mounted, you must splice your belt through your frame triangle and adjust for proper alignment. Finally, go ride (of course)!

### A. Installing the Sprocket

1. Slide sprocket onto the freehub body on the rear wheel, ensuring the lock screw is facing towards you/ away from the spokes.
2. Position sprocket to approximate center of freehub body, and gently tighten lock screw using a 2.5mm hex wrench. In a later step, the sprocket position will be adjusted to correctly align the belt.



### B. Mounting the Belt Ring

The belt ring is constructed of two plates that are sandwiched together by five screws. These two plates can be unscrewed and reconfigured so that the belt can be properly aligned. **In general, you should choose the configuration that positions the belt ring as close to your frame as possible without rubbing the chain stay.** The two plates come assembled in the most common configuration.

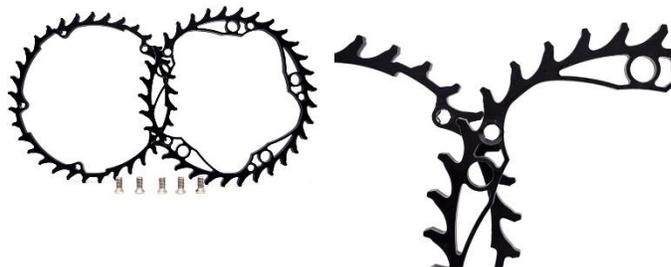


Depending on the position, you may need to remove your crankset from the bottom bracket to slide the belt ring on over the spindle instead of over the spider.

1. While looking at your bike, position the belt ring so the teeth on the top of the ring are facing the front of your bike (clockwise). If the belt ring is flipped, the teeth will point towards the back of your bike and the drive will not perform well.
2. Slide belt ring over your right pedal and crank arm and seat the ring so the five bolt holes on the spider line up with the five bolt holes on the ring.
3. Check if the belt ring is within 1/4 of an inch of your frame. If not, refer to the “Positioning the Belt Ring” section.
4. Replace chainring bolts and tighten. (If you were previously using a single chainring, your chainring bolts may be too short, and you will need to find bolts sized for a double chainring configuration)

### C. Positioning the Belt Ring

The belt ring is made up of two plates, mounted together by five screws. The plate that has chainring bolt holes is known as the primary drive plate. The plate without mounting holes is known as the secondary drive plate.



There are four positions the belt ring may be mounted to your crank spider. Position 1 is closest to your frame, while 4 is the farthest

1. Belt ring mounted on inside of crank spider, with primary plate on the outside.
2. Belt ring mounted on inside of crank spider with primary plate on the inside, facing the bike. (the five bolts sandwiching the drive plates must be removed and the belt ring positions swapped)
3. Belt ring mounted on outside face of crank spider, with primary plate on the outside.  
\*We recommend trying this configuration first as it provides the easiest mounting and best aesthetic.
4. Belt ring mounted on the outside of crank spider with primary plate on the inside, facing the bike. (the five bolts sandwiching the drive plates must be removed and the belt ring positions swapped)



#### D. Installing the Belt

1. Thread the linear belt through your rear frame triangle. The belt splice is directional. The proper direction can be found by grasping the end of the belt that comes to two points and threading it around the top of the chain stay. When the belt is in final position, with the belt splice on top, the point of the splice should be pointing towards the front of the bike.



2. Bring the ends of the belt together so they form a “V” and align the teeth to each other. (Remember the belt should be looped around your chain stay)
3. Insert rivets into the holes in the belt teeth. Make sure they are pushed through all the way and you can see the tip coming out the other end. This may be done by hand but wearing gloves can make it more comfortable. The rivets may be inserted in either direction. We suggest facing all the heads outward for aesthetics.
4. Clinch Rivets using rivet clinching tool. This should be done after all the rivets have been fully inserted into the belt teeth. Align the clinching tip to the hollow end of each rivet and squeeze the handles. It should take a firm but not excessive amount of force. You will feel a small “pop” as the clincher splays the rivet end. Do not continue to squeeze harder after this point. Make sure the splayed end is on the outside of the belt and you are not splaying the rivet inside the belt or else you will damage it.
5. Hang the belt on the spindle between your frame and crank spider. Hold your wheel near the dropouts and slip the belt around the rear sprocket so it sits between the spokes and the sprocket, resting on the bar freehub body.
6. Move the wheel axle into the dropouts, as you would when using a chain drive. Be mindful of the brakes blocking the wheel from seating! Ensure the wheel is fully seated in the dropouts before tightening the quick release.

## E. Mounting Tensioner

1. Loosen the idler shaft adjustment bolt and slide the shaft to the end/tip of the slot.
2. Loosen the blue tension adjustment knob and slide the tension brace to the end of travel.
3. Line the bumper up with the backside of the derailleur hanger and align the mounting bolt with the hole in the hanger.
4. Screw tensioner into the derailleur hanger using derailleur hanger bolt. The spring tensioner should be positioned so that it can press against the derailleur hanger. The belt might have to be positioned out of the way while the tensioner is being tightened on. (Make sure the catch on the tension brace is behind the hook on the derailleur hanger, not in front!)

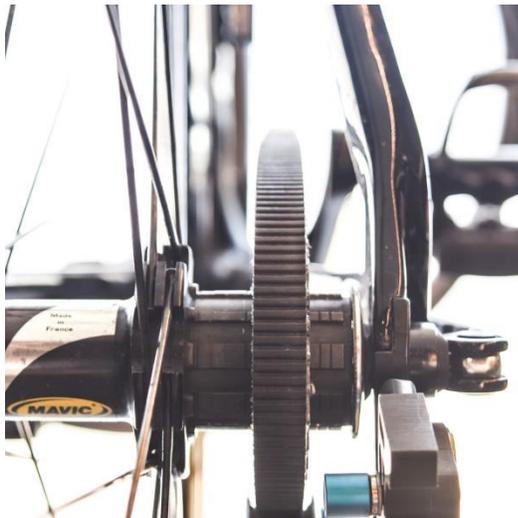


5. Start screwing in the titanium hanger bolt until the resistance drastically increases (torque spec). The tensioner arm should rotate about the bolt with a small amount of resistance and no play.

## F. Aligning the Belt

### Proper Alignment

A properly aligned belt is very important. The belt should be running with the belt teeth maximally engaged with both the rear sprocket and front belt ring. There should be no angle or misalignment of the belt to the sprockets, and the sprockets must be in the same plane. These issues can affect the performance of your belt in terms of noise, feel, wear and can cause your belt to slide off the system. Proper alignment will refer to the belt running in line with both sprockets with less than 0.5 mm of overhang.



### Rear Sprocket Alignment

1. With the tensioner disengaged, first slide the belt onto the front belt ring, then on to the rear sprocket. It is easiest to do in this order. **Do not** pry the belt on, roll the belt onto the sprockets by pedaling (as you would a chain) or kink/twist the belt in any way. The belt should slide onto the sides of the sprocket if it is sized properly.
2. Once the belt is rolling loosely on both sprockets, pedal the bike with rear wheel off the ground and check for belt-sprocket alignment. It is likely the sprockets are misaligned at this point.
3. Loosen the lock screw on the rear sprocket, but do not fully remove the screw.
4. Slide rear sprocket in the direction that improves alignment of the sprockets. e.g. If the belt moves away from the bike, slide the sprocket away from the bike.



5. Tighten lock screw gently.



6. Next, rotate the tensioner arm upward until the idler wheel gently touches the belt.
7. Loosen the shaft clamp collars on the tensioner shaft (2.5 mm hex) to allow the wheel to “float” toward or away from the spokes. There will be some resistance to this float, but you should be able to move it with your fingers. Slide the idler wheel in line with the rear sprocket, so the guide flanges on the wheel can fit on either side of the sprocket. Squeeze the two shaft collars against the idler wheel and tighten one shaft clamp. Push the second shaft clamp against the idler wheel to keep it securely in position and clamp it down as well.
8. Now, using the 4mm hex key inserted in the idler shaft adjustment bolt, slide the idler wheel assembly toward the rear sprocket until the wheel edge is approximately 1 cm from the edge of the sprocket. Tighten the bolt firmly.
9. Grip the tensioner arm and chain stay firmly with one hand, squeezing the idler wheel upwards against the belt. The force should be sufficient to make the belt straighten out, but not require a huge effort. With the other hand, pull the tension brace upward until it presses firmly against the back of the derailleur hanger.



With the system preloaded in this manner, tighten the blue thumb screw to lock.

10. Pedal the bike with rear wheel off the ground to see how the tensioner guides the system. The goal is to adjust the idler wheel and rear sprocket position, so they perfectly match the position of the front belt ring.
11. Adjust the two lock screws on either side of tensioner wheel and slide tensioner wheel into alignment so that the tensioner guides the belt over the rear sprocket
12. Tighten the locking screws on either side of the tensioner wheel once all is in place and the belt is aligned and under tension.

You're good to go! That belt should be running silent as a ninja and clean as can be. The belt should maintain alignment with both belt ring and sprocket. It should be smooth and even with low resistance. Go get out and ride it!

### **Troubleshooting Issues**

If you encounter the belt skipping over the sprockets, you will know. It sounds like a spoke breaking. Try preloading the belt with the tensioner until it goes away. If the issue persists, let us know! We'll set you up till it runs clean.

If the belt slips off system: Re-check your alignment.

Fine sand and dirt can cause a little bit of noise. Use a bit of water to clean off the belt. This shouldn't be necessary very often, but a hose down should help with the noise.

### **5. Get Veered!**

We are a company that seeks to improve your biking experience. We pride ourselves on full support in any way our customers need. We'd love to hear your questions,

comments, or concerns. Our team is waiting to chat and help you out. Simply contact us in the most convenient way for you below.

**Customer Support by Phone:** (530) 324-2007

**Customer Support by email:** [hello@veercycle.com](mailto:hello@veercycle.com)

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**NOTE:** This manual is not intended as a comprehensive use, service, repair or maintenance manual. Please see your dealer for all service, repairs or maintenance. Your dealer may also be able to refer you to classes, clinics or books on bicycle use, service, repair or maintenance.

**GENERAL WARNING:** Like any sport, bicycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know — and to practice — the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces risk of injury. This Manual contains many “Warnings” and “Cautions” concerning the consequences of failure to maintain or inspect your bicycle and of failure to follow safe cycling practices. • The combination of the safety alert symbol and the word WARNING indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death. • The combination of the safety alert symbol and the word CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or is an alert against unsafe practices. • The word CAUTION used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the bicycle or the voiding of your warranty. Many of the Warnings and Cautions say “you may lose control and fall”. Because any fall can result in serious injury or even death, we do not always repeat the warning of possible injury or death. Because it is impossible to anticipate every situation or condition which can occur while riding, this Manual makes no representation about the safe use of the bicycle under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider.

**IMPORTANT:** This manual contains important safety, performance and service information. Read it before you take the first ride on your updated bicycle and keep it for reference. Additional safety, performance and service information for specific components such as suspension or pedals on your bicycle, or for accessories such as helmets or lights that you purchase, may also be available. If you have any questions or do not understand something, take responsibility for your safety and consult with your dealer or the company’s manufacturer.

**WARNING:** Many states require specific safety devices. It is your responsibility to familiarize yourself with the laws of the state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires. Observe all local bicycle laws and regulations. Observe regulations about licensing of bicycles, riding on sidewalks, laws regulating bike path and trail use, helmet laws, child carrier laws, special bicycle traffic laws, and so on. It's your responsibility to know and obey the laws. 1. Always wear a cycling helmet which meets the latest certification standards and is appropriate for the type of riding you do. Always follow the helmet manufacturer's instructions for fit, use and care of your helmet. Most serious bicycle injuries involve head injuries which might have been avoided if the rider had worn an appropriate helmet.

**WARNING:** Failure to wear a helmet when riding may result in serious injury or death.

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