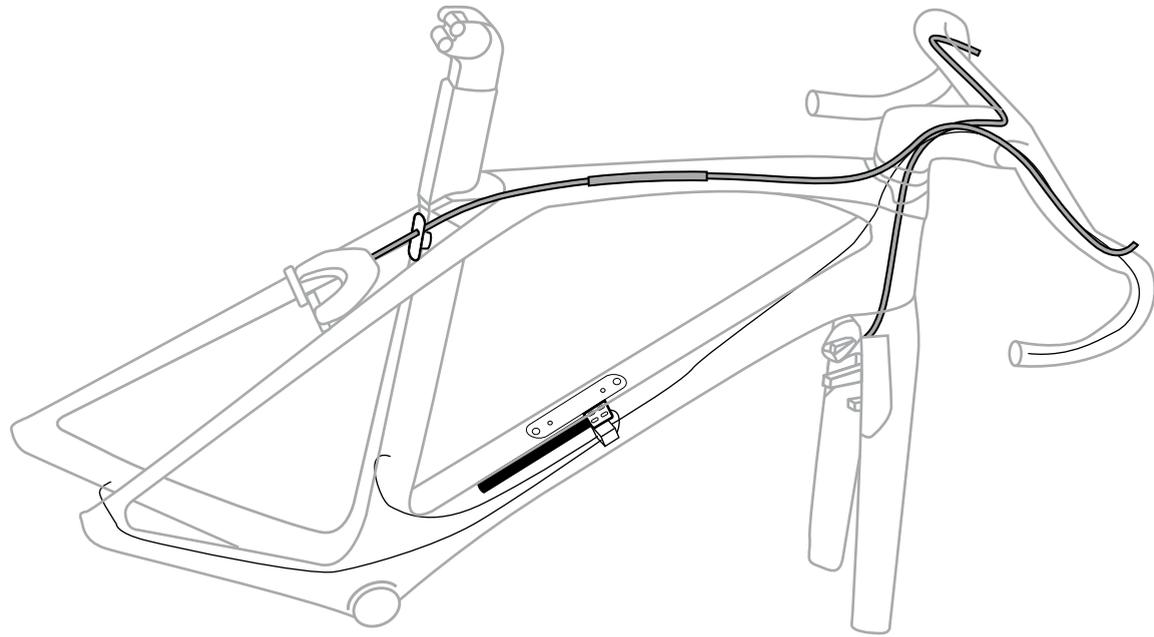


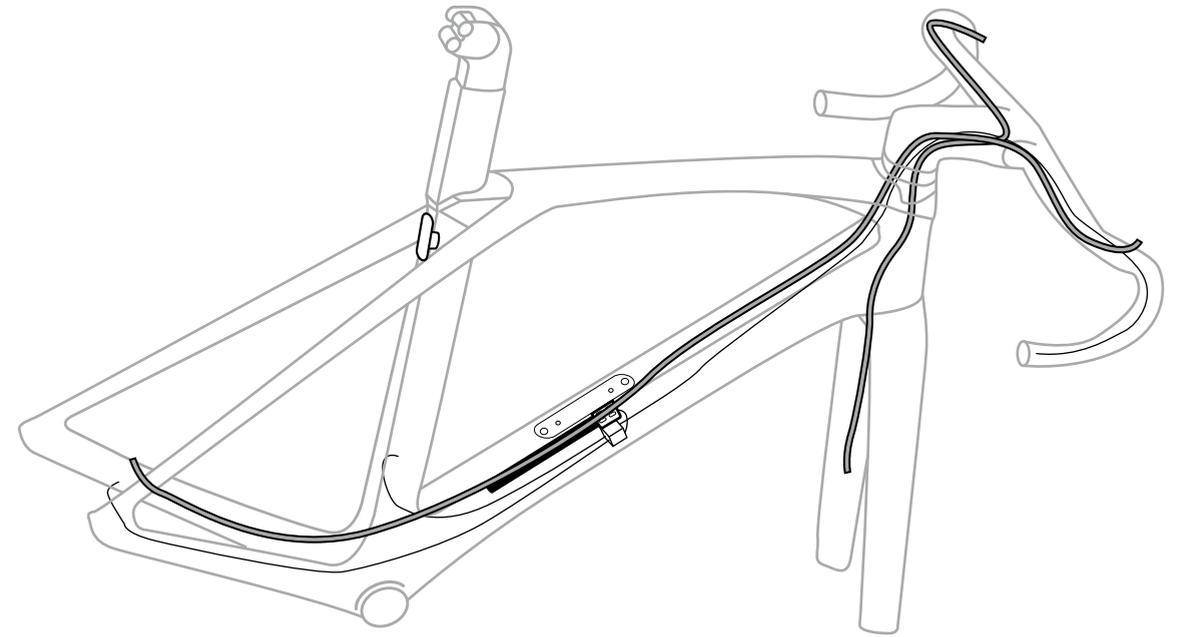


**TREK**

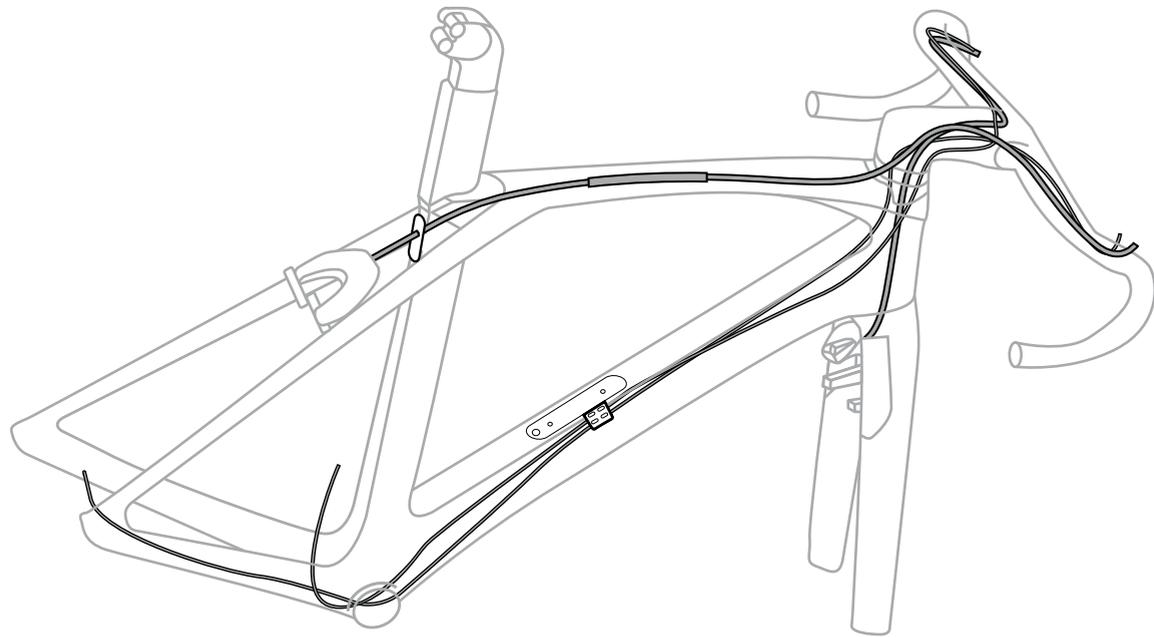
**2019 MADONE  
ASSEMBLY MANUAL**



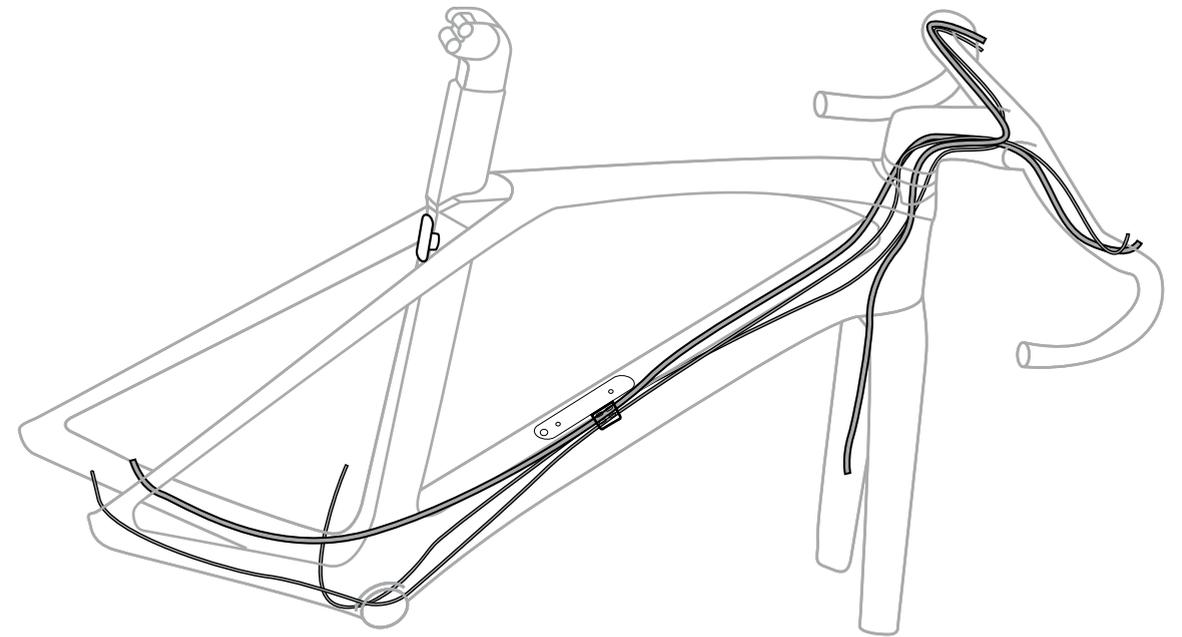
Rim brakes and Di2 drivetrain



Disc brakes and Di2 drivetrain



Rim brakes and mechanical drivetrain



Disc brakes and mechanical drivetrain

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## 1 PROCEDURES COMMON TO ALL 2019 MADONE MODELS

**NOTE** There is plastic tubing inside the frame to help with initial routing of the cables and housings through the frame.

### TOOLS AND MATERIALS REQUIRED

- 2mm hex
- 4mm hex
- 5mm hex
- Torque wrenches
- Sockets
- Cable cutter
- Marker

**1.** Prepare the housings. Cut to length and finish the ends. Do not install end caps yet.

**NOTE** The length for each housing by frame size is shown in the table below.

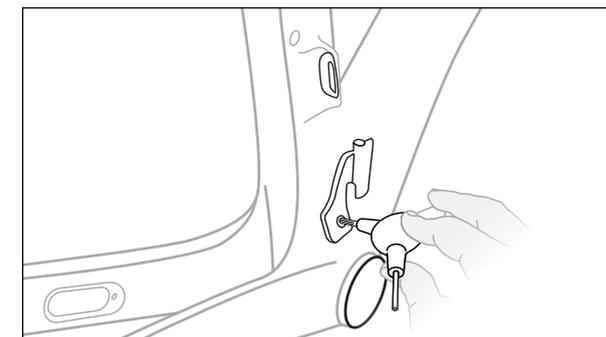
**Mechanical build housing lengths for 2019 Madone  
Total cable length recommendations**

Frame size	Housing specs [w/ 40mm of stack] are subject to trimming for proper build				
H1	Stem Size	Bar Size	FB Housing (mm)	RB Housing (mm)	FD/RD Housing (mm)
50	90	40	695	1125	825
52			705	1140	835
54			725	1165	855
56	100	42	755	1185	875
58			785	1210	920
60			815	1235	955
62	690	44	835	1245	980

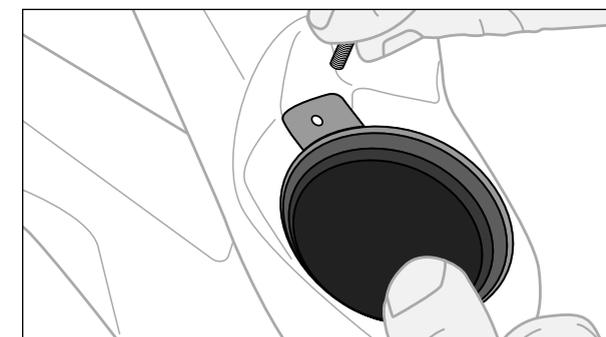
\*Notes: 1. Brake housings are intended to have 100mm of housing protruding from each end (frame/fork and Hbar ends).  
2. Derailleur housings are intended to have 100mm protruding from Hbar end.  
3. Brake housings only represent rim brake builds.

**2.** Install the chain keeper at the base of the front derailleur hanger. Torque the bolt to 3Nm.

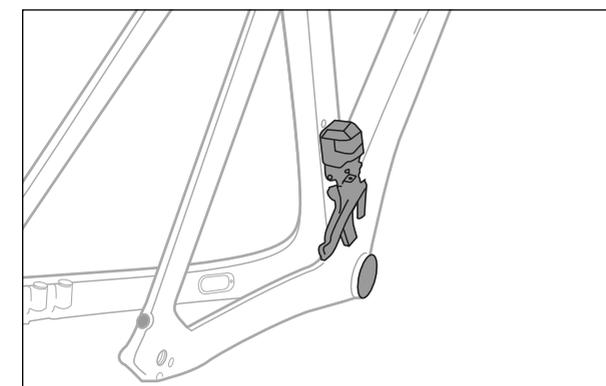
**NOTE** Secondary wing bolt will be torqued after chain installation.



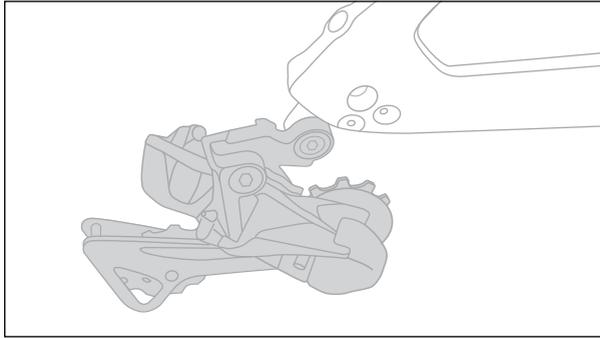
**3.** Install the steer stop at the top of the head tube bore. Torque the bolt to recommended torque, but not more than 0.7Nm.



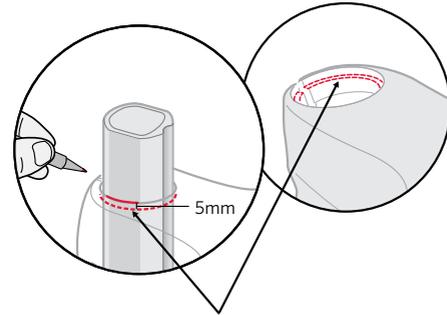
**4.** Install the front derailleur at the base of the front derailleur hanger. Tighten the bolt just until the derailleur is held. Do not fully tighten yet.



5. Install the rear derailleur on the the rear derailleur hanger. Tighten to OEM torque spec.



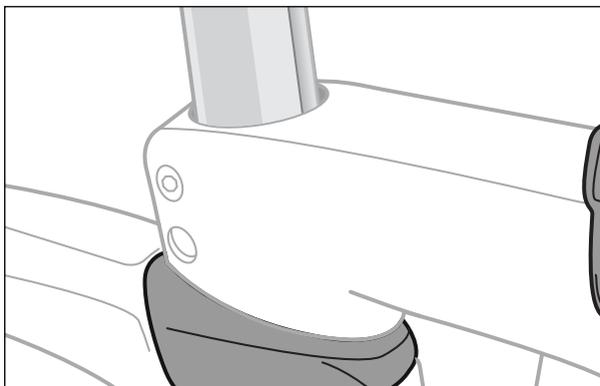
4. If you are planning to use the 5mm spacer recessed in the stem, your actual cutting line should be 5mm below the pencil mark made in the prior step. If you are planning on using a 5mm headset spacer above the stem, cut on the line.



### CUT THE FORK STEERER TUBE:

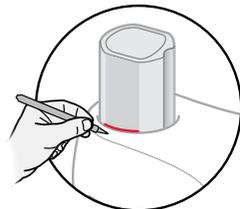
**NOTE** You will need to temporarily install the fork, headset, and stem together to get the correct location for cutting the steerer tube.

1. Holding the fork legs, slide the stem down the steerer tube until it is firmly seated on top of the bearing top cap or shaped spacers. Lightly tighten the stem pinch bolts.



2. Determine the preferred cut length. Use additional spacers above the stem until you are certain about the desired stack height (handlebar height).

3. Mark a fine line on the flat side of the steerer tube along the top edge of the stem.



5. **IMPORTANT:** There is a 5mm spacer built into the stem which allows you to install the stem top cap flush with the stem.

6. Disassemble stem and headset from steerer tube.

7. Proceed with cutting the steerer at the selected location from Steps 3/4 using a standard carbon steerer cutting process.

**If you're building a mechanical drivetrain, go to Step 2. Install the Mechanical Control Center on page 5. If you're building a Di2 drivetrain, go to Step 3. Install the Di2 Cables and Housings on page 9.**

## 2 INSTALL THE MECHANICAL CONTROL CENTER

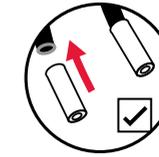
### TOOLS AND MATERIALS REQUIRED

- Park Tool Routing Kit
- Marker
- Ferrules
- Mechanical control center
- Rear derailleur cable stop
- Rear derailleur cable liner
- Cable cutter
- Bottom bracket guide
- Ruler

**NOTE** There is plastic tubing inside the frame to help with initial cable and wire routing. It is not intended to be left in frame.

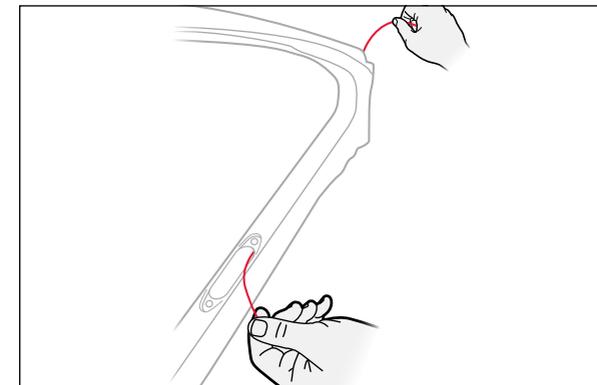
1. Refer to the table at the front of this manual to cut the front and rear derailleur cable housings to the appropriate lengths.

2. Attach ferrules to both ends of the derailleur housings. Route the cables into their housings.

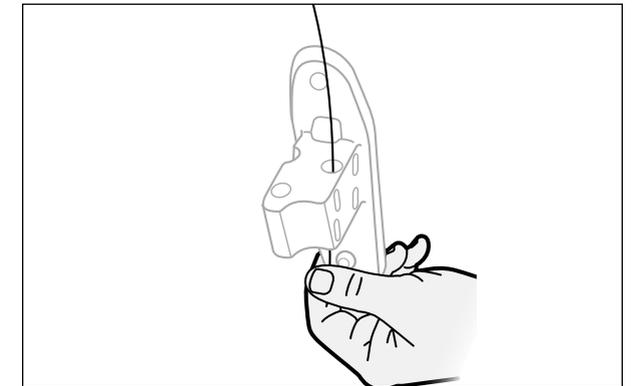


3. Mark the FD housing with tape to identify it.

4. Route the FD cable/housing from the head tube to the cutout in the down tube.

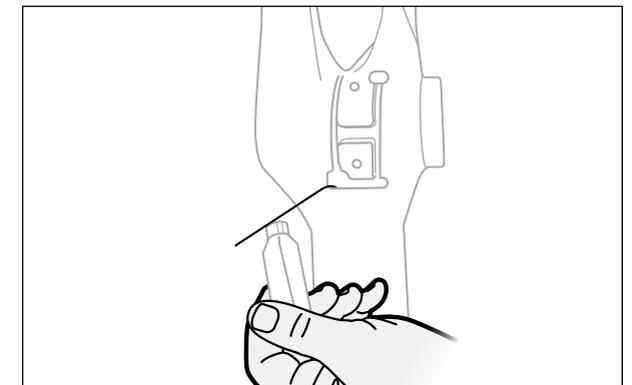


5. Pass the FD cable through the top hole of the control center.



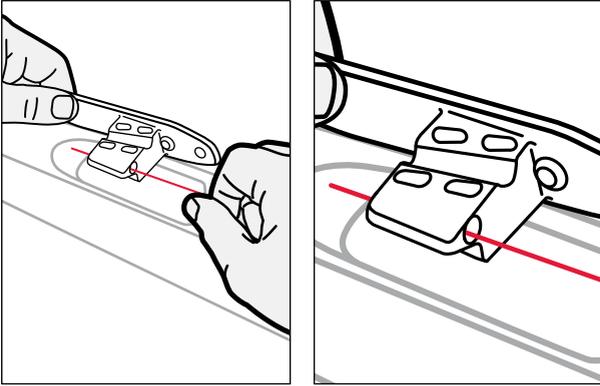
6. Set the control center loosely in the down tube cutout.

7. Route the FD cable down the down tube and push it through the bottom bracket guide slot.

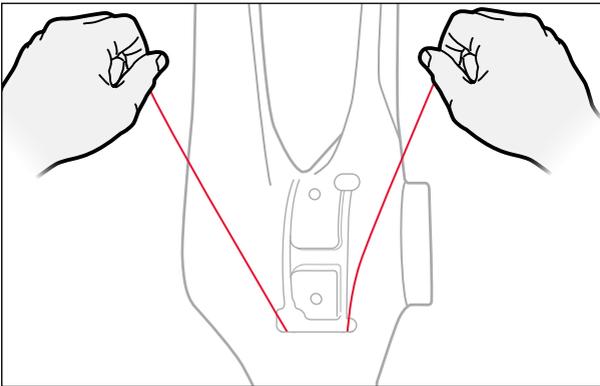


**8.** Route the RD cable/housing from the head tube to the cutout in the down tube.

**9.** Pass the RD cable through the bottom hole of the control center.

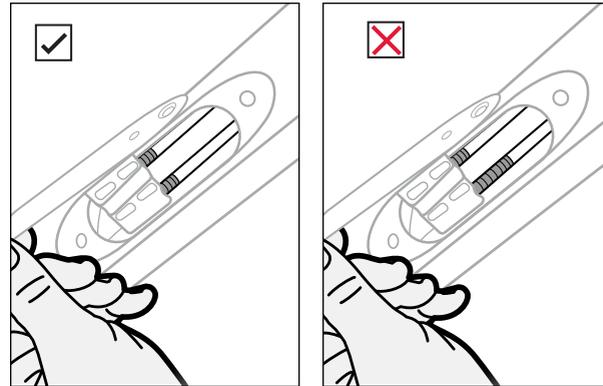


**10.** Route the RD cable down the down tube and push it through the bottom bracket guide slot.



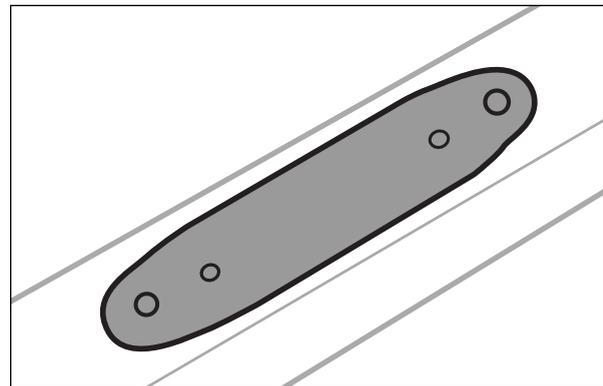
**11.** Do a visual check to make sure the cables are not crossed.

**12.** At the control center, push the FD and RD housing ferrules into the top and bottom holes of the control center.

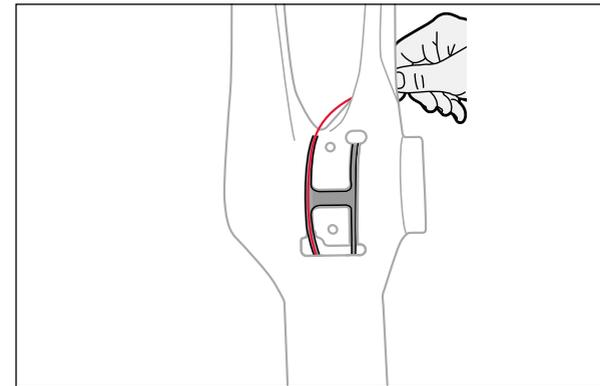


**NOTE** It is important to have the ferrules fully seated in the control center.

**13.** Place the control center in the down tube, but do not attach bolts at this time.

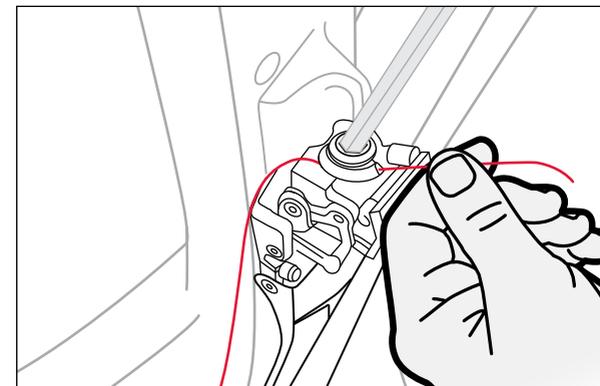


**14.** Install the bottom bracket guide and hold it in place with the FD cable.

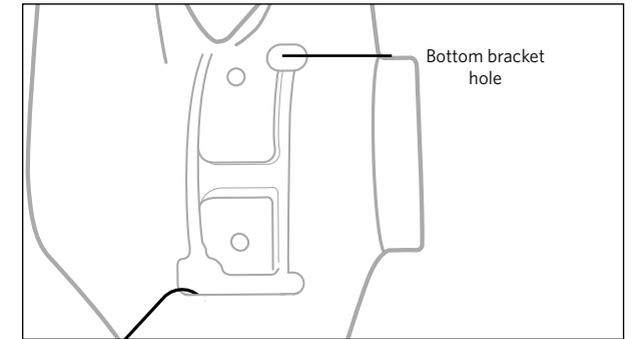


**NOTE** This is intended to keep the housing secured in the downtube cablestop.

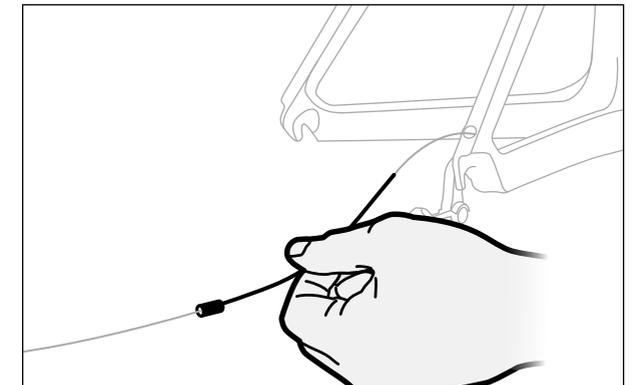
**15.** Put the FD cable in the front derailleur cable anchor bolt and lightly tighten the bolt to keep the cable in place.



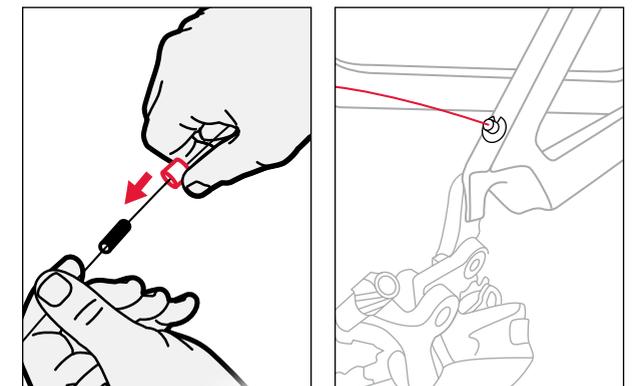
**16.** Route the RD cable from the bottom bracket hole up through the drive-side chainstay and out the rear hole in the chainstay.



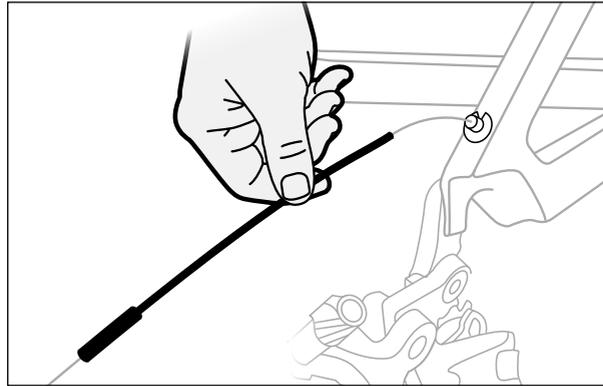
**17.** Install the RD cable liner on the cable and insert it into the chainstay.



**18.** Wrap the cable stop around the cable and install it in the drive side dropout exit.

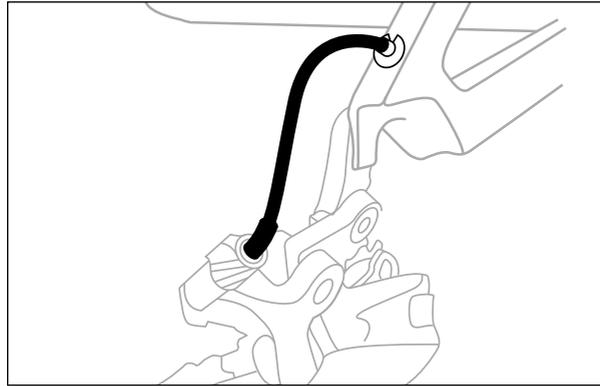


- 19.** Install the short cable housing from the rear derailleur to the chainstay.



**NOTE** This step may be OEM-specific.

- 20.** Put the RD cable in the rear derailleur cable anchor bolt and lightly tighten the bolt to keep the cable in place.



**If you're installing disc brakes (Mechanical Drivetrain), go to Step 4. Install the Rear Disc Brake (Mechanical) on page 11. If you're installing rim brakes, go to Step 7. Route the Rim Brake Housing on page 15.**

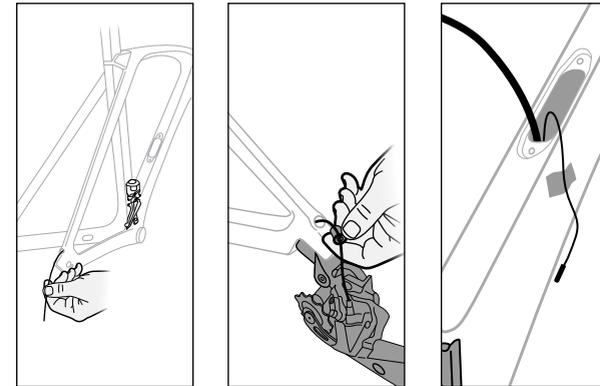
### 3 INSTALL THE DI2 CABLES AND HOUSINGS

#### TOOLS AND MATERIALS REQUIRED

- Park Tool - Internal Cable Routing Kit (IR-1 or IR-1.2)
- Junction B Box (SM JC41)
- Electrical tape

#### 1. Rear derailleur

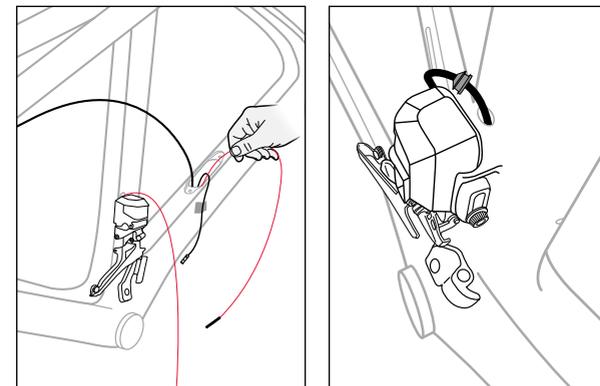
- Use the routing cable to pull the RD Di2 wire forward from the chain stay to the control center.
- Attach the wire to the rear derailleur.
- Insert the RD wire grommet into the bottom of the drive side dropout.
- Tape the other end of the RD wire to the downtube to hold it in place.



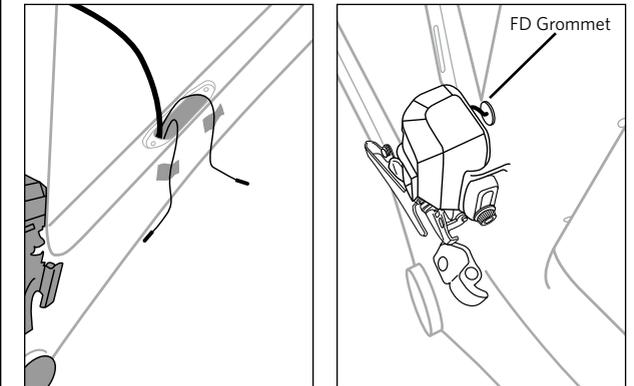
#### 2. Front derailleur

**NOTE** You may wish to remove the front derailleur to help ease Di2 routing.

- Use the routing cable to pull the FD Di2 wire from the frame hole above the FD to the control center.
- Plug the wire into the front derailleur.

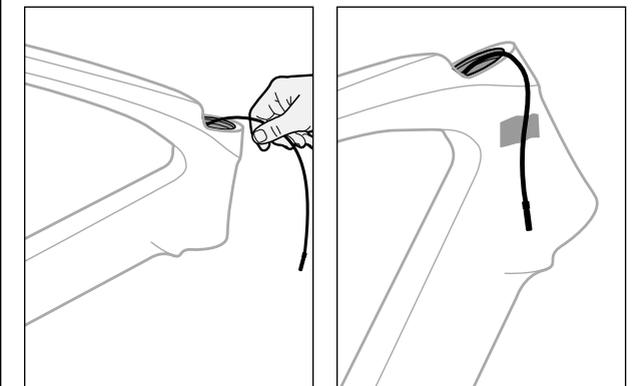


- Tape the other end of the FD wire to the downtube to hold it in place.
- Insert the FD wire grommet.



#### 3. Cockpit to control center

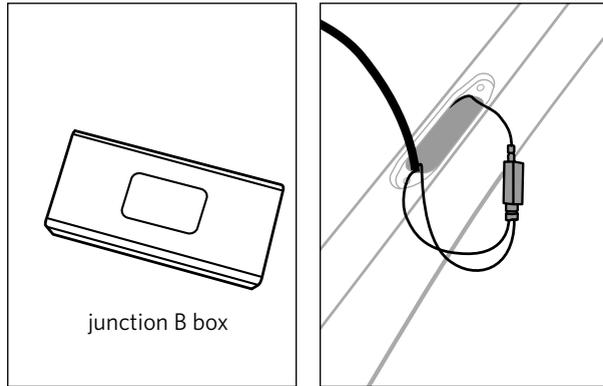
- Use the routing cable to pull the cockpit wire from the upper head tube bore down to the control center.
- Tape the cockpit wire to the head tube to keep it handy.



- Connect all three Di2 wires (RD, FD, cockpit) to the junction B box (SM-JC41). See page 10.

The orientation of the junction B box does not matter.

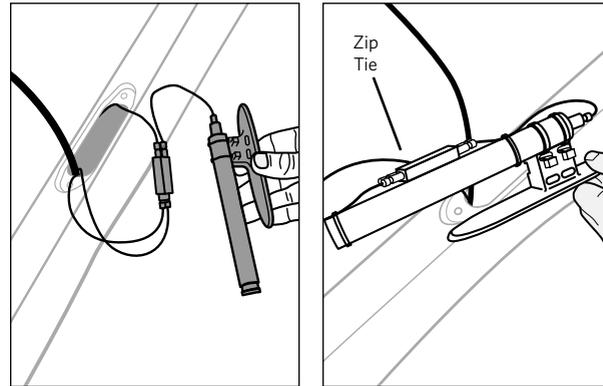
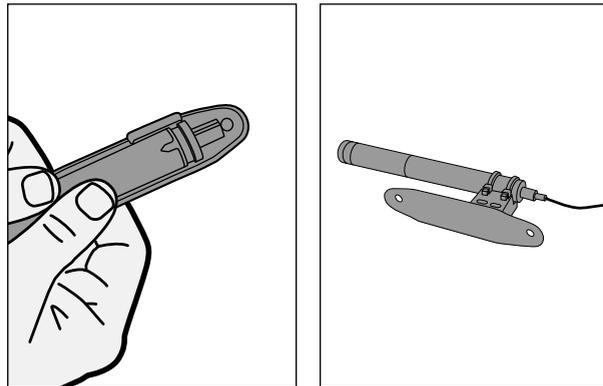
- Pull tape off all wires from the downtube.
- Plug the RD and FD wires into the bottom (rear) two ports.
- Plug the cockpit wire into the top (forward) side.



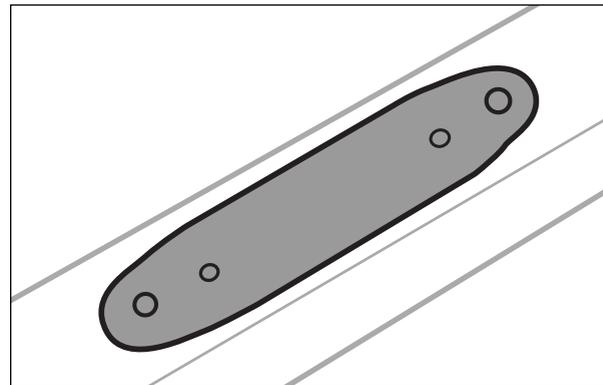
junction B box

**4.** Di2 battery to control center

- A. Connect the battery to the control center with zip ties. Put one zip tie in the groove at the top of the battery.
- B. Connect the short Di2 battery wire to the battery.



**6.** Place the control center in the downtube. Do not install bolts yet.



**If you're installing disc brakes, go to Step 5-Install Rear Disc Brake (Di2 Drivetrain) on page 13. If you're installing rim brakes, go to Step 7-Route the Rear Rim Brake Housing on page 15.**

**IMPORTANT: The orientation of the battery on the control center must be aligned as shown.**

**5.** Connect the battery to junction B box

- A. Connect the battery wire to the remaining junction B box port at the top (forward) side as shown.
- B. Use a zip tie to connect the junction B box to the battery.

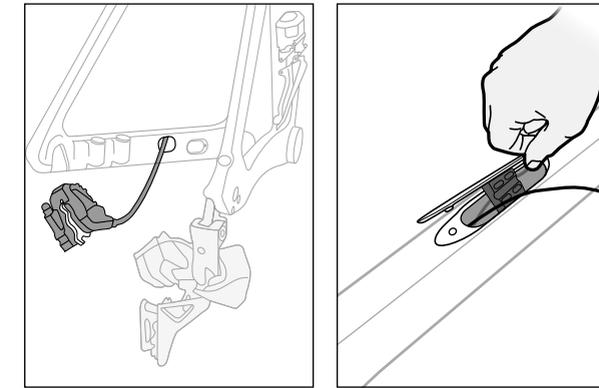
**4** INSTALL THE REAR DISC BRAKE (MECHANICAL DRIVETRAIN)

**1.** Route the rear brake hose

- A. Slip the rubber grommet onto the brake hose.
- B. Route the hose from the grommet hole on the non-drive side chainstay to the control center access hole.

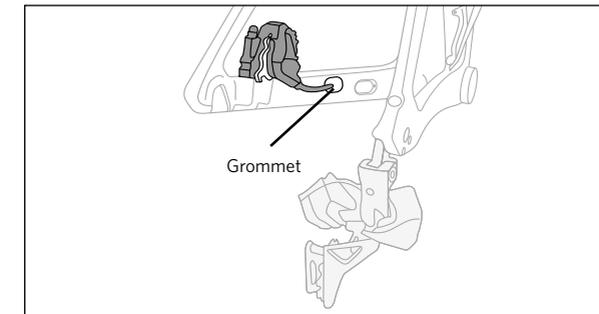
**IMPORTANT: After routing, the RB hose must rest above the FD and RD cables inside the frame.**

- C. Pull the hose out of the control center hole.



**2.** Install the rear brake

- A. Connect the rear brake to the non-drive side chainstay. Tighten the bolt just until the brake is snug. Do not fully tighten.
- B. Install the grommet into the grommet hole on the chainstay.

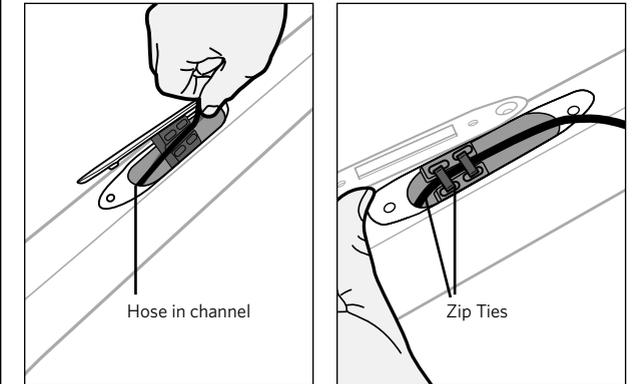


**3.** Connect the rear brake hose

- A. Use two zip ties to connect the RB hose to the slots in the control center as shown.

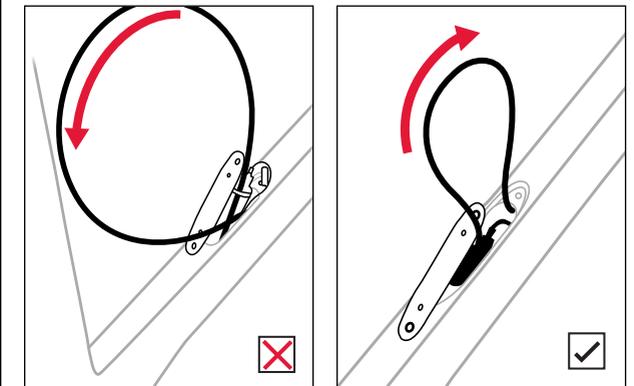
**NOTE** The brake hose must sit in the control center channel.

- B. Do not over-tighten the zip ties. Snug them up enough to stay in the control center groove, but loose enough so that the hose can slide in the channel.
- C. Place the control center assembly into the downtube.



**4.** Feed the RB hose up through the downtube towards the head tube.

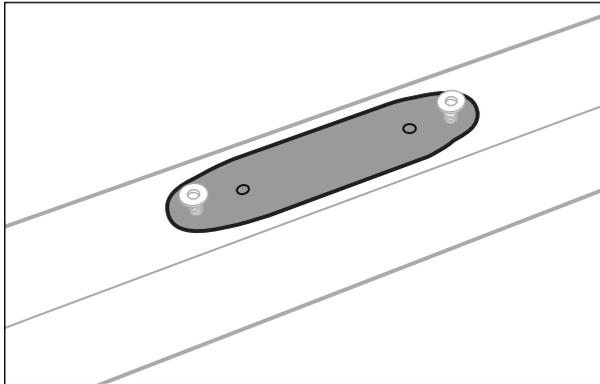
**NOTE** Make sure you don't kink or coil the brake hose. If the hose is coiled, it will kink



**5.** Pull the hose out the top of the upper head tube bore.

**IMPORTANT: Make sure the FD and RD housings are seated in the control center.**

- 6.** Connect the control center to the downtube. Torque the bolts to 3-4Nm.

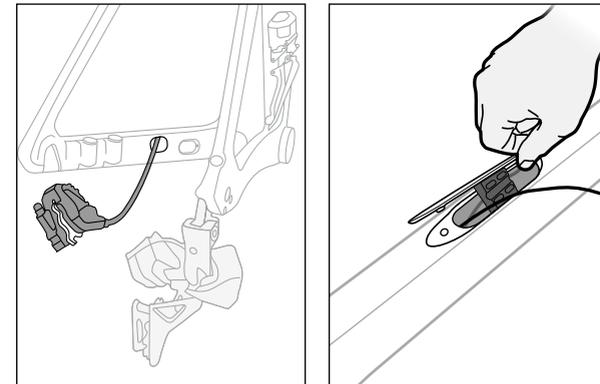


Go to Step 6-Install the Front Disc Brake on page 14.

## 5 INSTALL THE REAR DISC BRAKE (Di2 DRIVETRAIN)

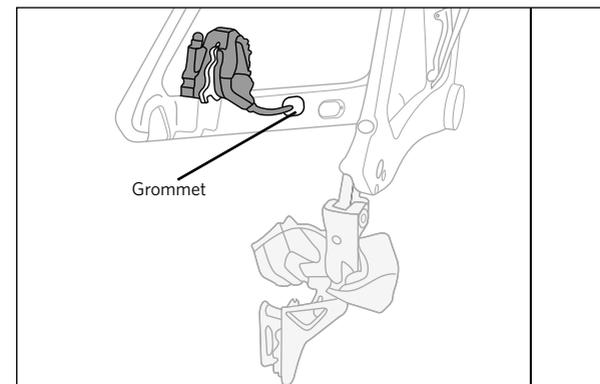
- 1.** Route the rear brake hose

- A. Slip the rubber grommet onto the brake hose.
- B. Route the hose from the grommet hole on the non-drive side chainstay to the control center access hole.
- C. Pull the hose out of the control center hole.



- 2.** Install the rear brake

- A. Connect the rear brake to the non-drive side chainstay. Tighten the bolt just until the brake is snug. Do not fully tighten.
- B. Install the grommet into the grommet hole on the chainstay.

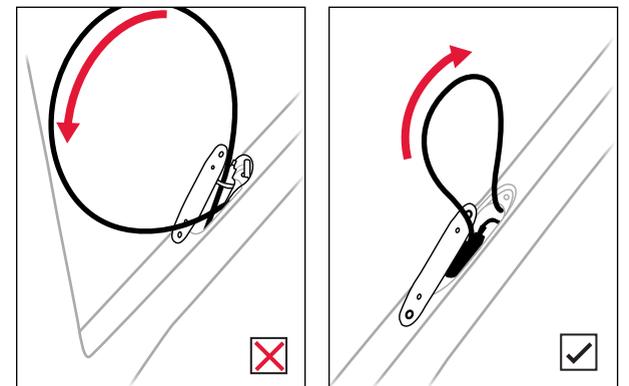


- 3.** Connect the rear brake hose to the rear disc brake.

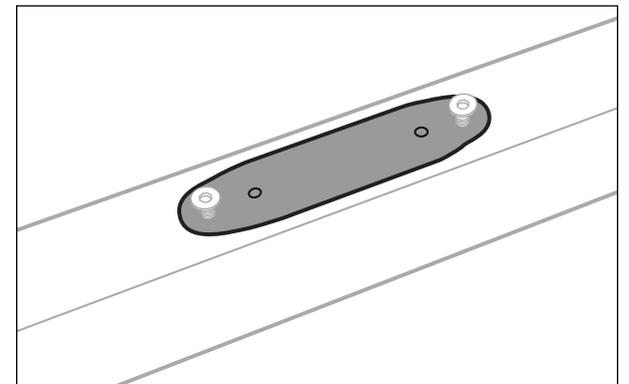
- 4.** Feed the RB hose up through the downtube towards the head tube.

**NOTE** Make sure you don't kink or coil the brake hose. If the hose is coiled, it will kink.

- 5.** Pull the hose out the top of the upper head tube bore.



- 6.** Connect the control center to the downtube. Torque the bolts to 3-4Nm.

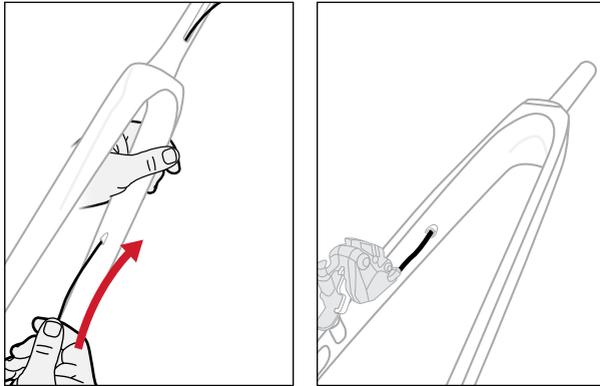


Go to Step 6-Install the Front Disc Brake on page 14.

## 6 INSTALL THE FRONT DISC BRAKE

1. Route the front brake hose
  - A. Put soap or grease on the brake hose for ease of installation (approximately 200mm).
  - B. Route the hose through the fork access hole (non-drive side) and up through the hole at the front of the steerer tube

2. Connect the brake to the fork. Tighten the bolt just until the brake is snug. Do not fully tighten



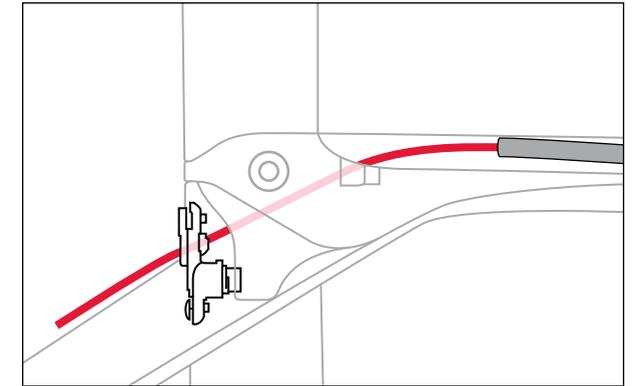
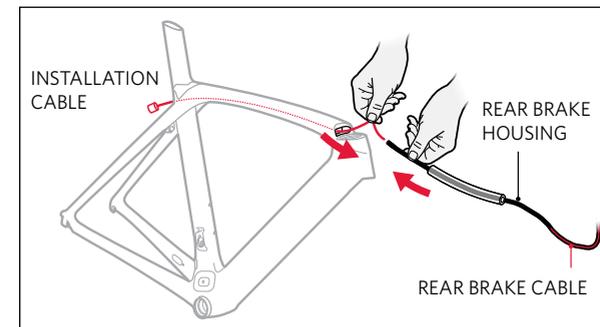
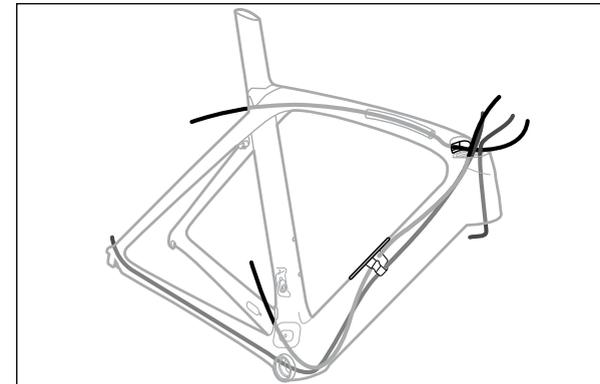
Go to Step 8-Install the Fork and Headset on page 17.

## 7 ROUTE THE REAR RIM BRAKE HOUSING

### TOOLS AND MATERIALS REQUIRED

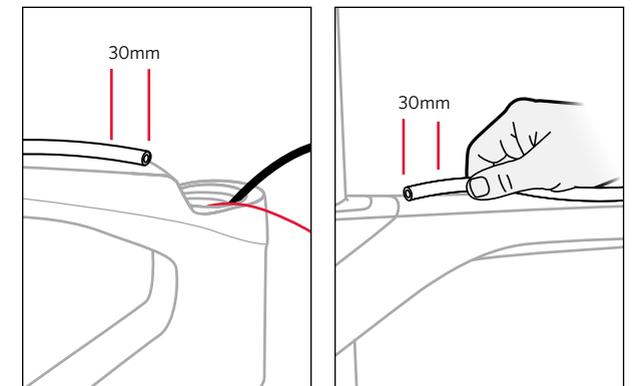
- Park Tool Routing Kit (IR-1 or IR-1.2)
- Foam sleeve
- Electrical tape

1. Feed the routing wire such that you can pull the RB housing from the head tube to the rear of the seatmast.

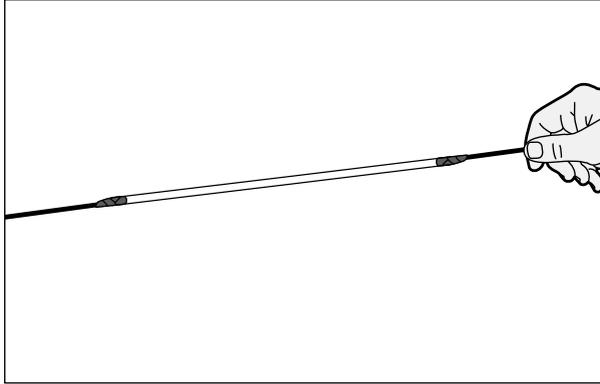


**NOTE** Be aware the routing wire needs to pass through three slots to exit out the rear of the seatpost.

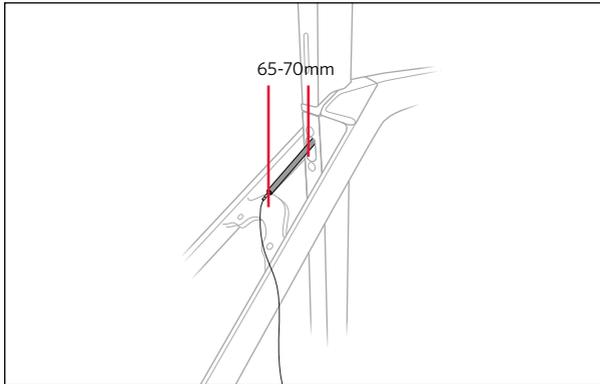
2. Cut the foam sleeve to size. To measure, place the sleeve on the top tube, end to end. Cut off 30mm from each end.



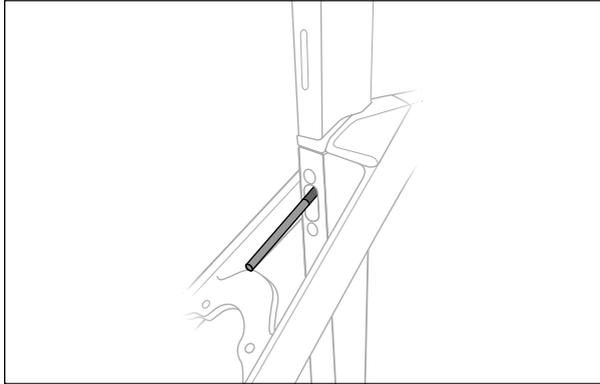
- 3.** Pass the RB housing through the foam sleeve so that there is 200mm of housing beyond the rear end of the sleeve. Secure the sleeve with electrical tape at both ends.



- 4.** Attach the routing tool to the RB housing and pull the housing back through the head tube and out the RB cable exit hole in the seat tube until 65-70mm of the housing is visible.



- 5.** Tape the housing flush with the seat tube.



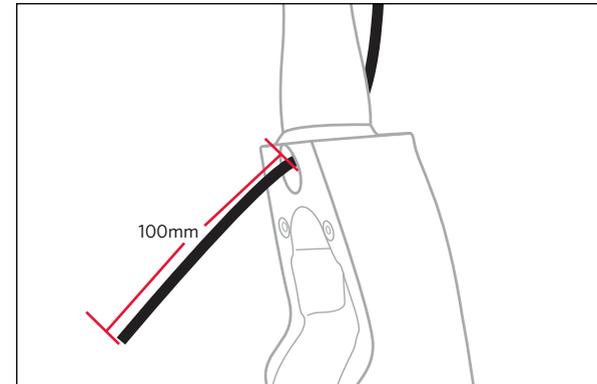
**Go to Step 8-Install the Fork and Headset on page 17.**

## 8 INSTALL THE FORK AND HEADSET

### TOOLS AND MATERIALS REQUIRED

- Tape

- 1.** For rim brake only route the front brake housing down through the access hole in the steerer tube so that the housing extends out the back of the fork 100mm.

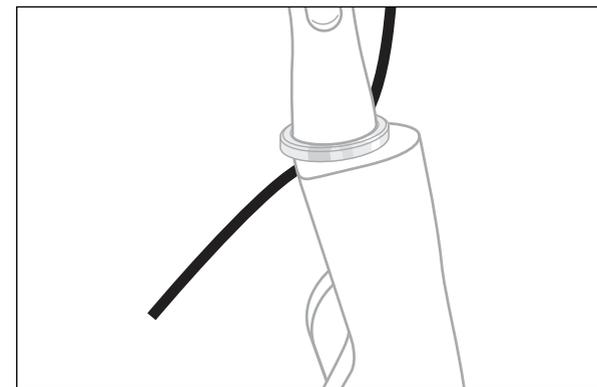


- 2.** For rim brake only tape off the housing flush with the fork to insure there is no housing movement.

- 3.** For rim brake only tape the upper end of the FB housing to identify it.

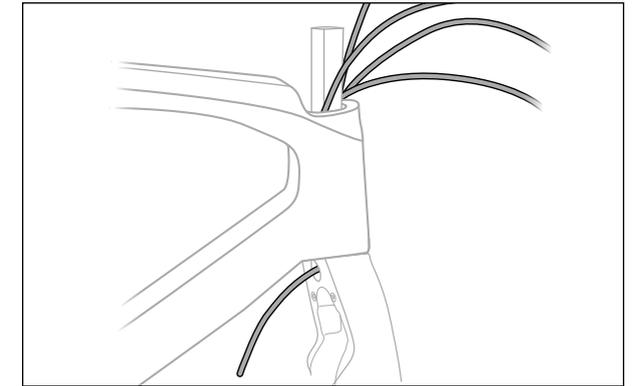
- 4.** Install the lower headset bearing.

- A. Capture the FB hose inside the bearing.
- B. Place the bearing up and over the steerer tube.

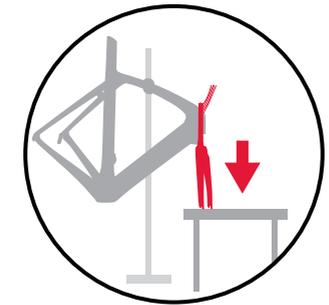


- 5.** Feed the FB housing up through the head tube from below.

- 6.** Push the steerer tube up into the head tube.



- 7.** Support the fork during installation as shown.



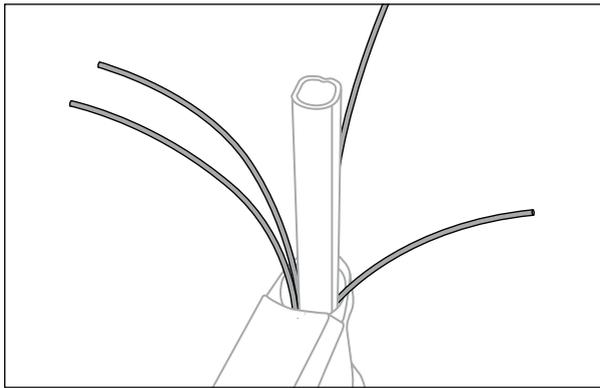
- 8.** For disc brake, tape the upper end of the brake hose to identify it.



#### TIP

Build the bike close to a bench to support the fork while installing the cable and housings.

**9.** Arrange the housings in the head tube prior to installing the upper head tube bearing.



- |                  |         |
|------------------|---------|
| • Non-drive side | RD & RB |
| • Drive side     | FD & FB |

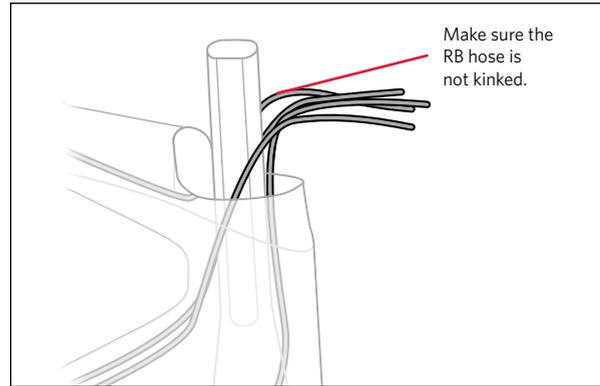
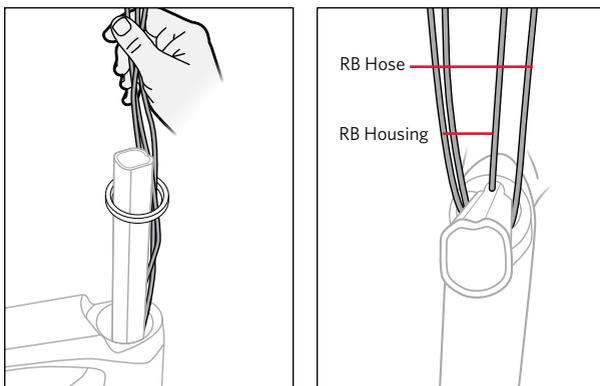
**NOTE** Make sure the RB hose is behind - to the rear of - the RD housing.

**10.** Install the upper head tube bearing.

**11.** Install the compression ring.

**IMPORTANT: The middle notch in the compression ring must align with the groove in the fork steerer tube.**

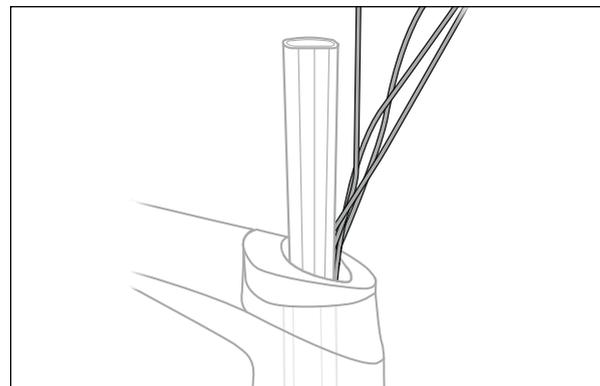
**12.** As you install the compression ring, be sure to push all housings back into the frame slightly to avoid housing kinks.



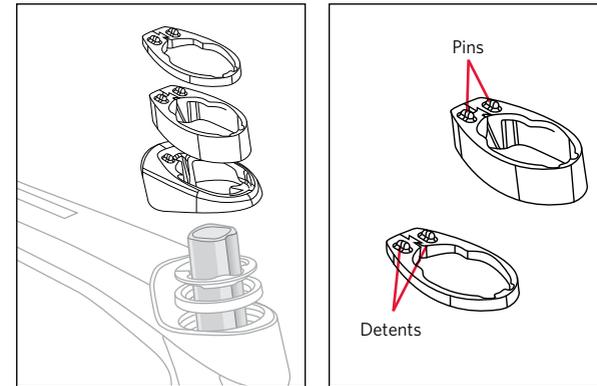
**Di2 NOTE** Make sure the Di2 wire is not twisted around either brake housing.

**NOTE** Make sure the RB hose is not kinked from the headset compression ring back through the top tube.

**13.** Install the bearing top cap.



**14.** Interlock the required spacers and slide them down the steerer tube to interface with the bearing top cap.

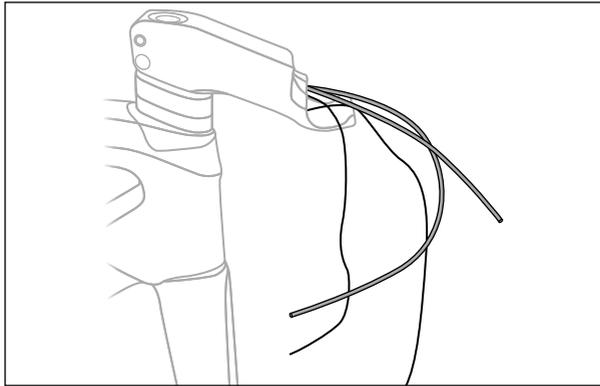


The top caps and shaped spacers have pins and detents that align as they stack.

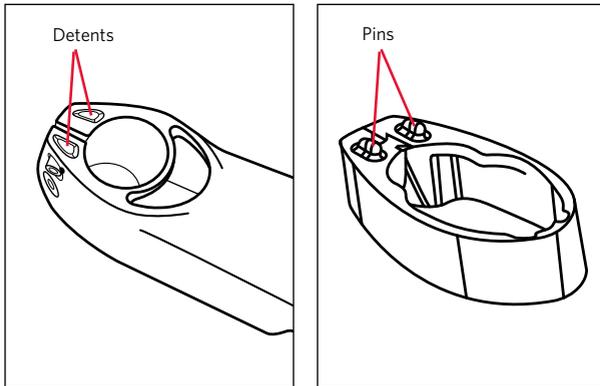
**If you're building a mechanical drivetrain, go to Step 9-Install the Stem (Mechanical Drivetrain) on page 20. If you're building a Di2 drivetrain, go to Step 10-Install the Stem (Di2 Drivetrain) on page 21.**

## 9 INSTALL THE STEM (MECHANICAL DRIVETRAIN)

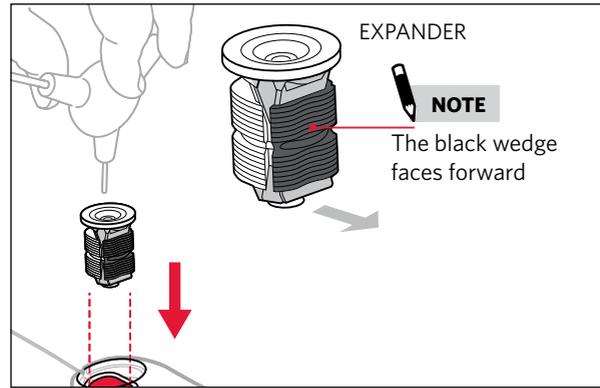
1. Feed the FB & RB hoses and FD & RD housings through the stem.



2. Fit the stem over the steerer tube.
3. As you slide the stem down the steerer tube, align the detents on the spacers or bearing top cap with the detents on the bottom of the stem.



4. Install the expander into the fork. Follow recommended torque values to properly secure the expander.



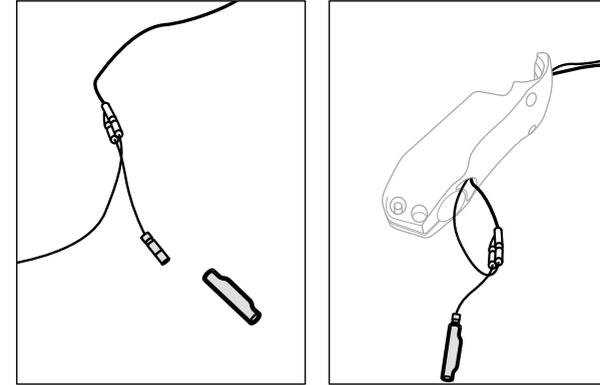
5. If needed, install additional standard-round spacers above the stem.
6. Install the stem cap and preload the headset bearings with a max torque of 4Nm.
7. Align the stem and tighten the stem pinch bolts to the recommended torque.

The two detents in the bottom of the stem align with the pins on the shaped spacers.

**Go to Step 11-Install the Handlebar and Shift Levers on page 22.**

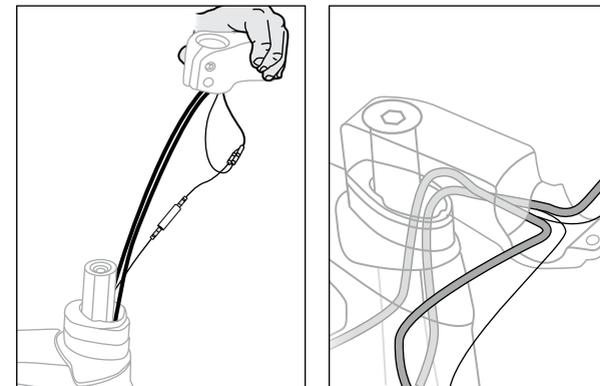
## 10 INSTALL THE STEM (Di2 DRIVETRAIN)

1. Connect the JC200 connector to the short end of the Y wire.
2. Route the wire assembly through the stem body.



**TIP** Push the Y end of the wire through the back of the stem and out the stem end.

3. Push the FB and RB housings through the stem.
4. Connect the short end of the Y wire to the cockpit wire.
5. Feed the FB and RB housings through the stem as shown.

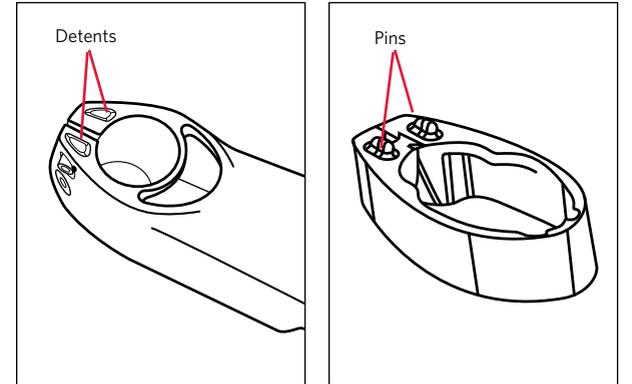


**NOTE** The JC200 connector must ultimately rest inside the stem.

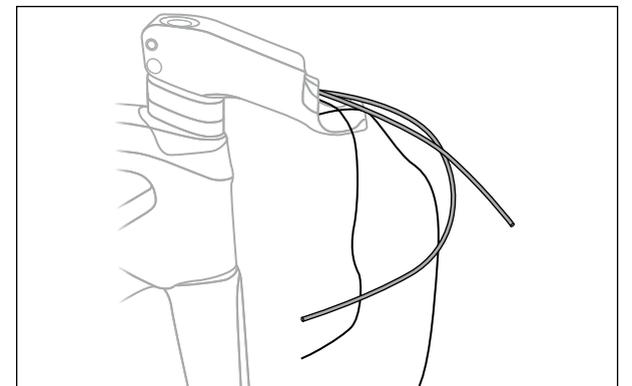
**NOTE** Make sure the Di2 wires and the brake housings are not twisted together.

6. Install the stem onto the steerer tube.

7. Fit the stem over the steerer tube.
8. As you slide the stem down the steerer tube, align the detents on the spacers or bearing top cap with the detents on the bottom of the stem.



9. Install the expander into the fork. Follow recommended torque values to properly secure the expander.
10. If needed, install additional standard-round spacers above the stem.



11. Install the stem cap and preload the headset bearings with a max torque of 4Nm.
12. Align the stem and tighten the stem pinch bolts to the recommended torque.

**Go to Step 11-Install the Handlebar and Shift Levers on page 22.**

# 11 INSTALL THE HANDLEBAR AND SHIFT LEVERS

AT THIS POINT, YOU SHOULD HAVE A COMBINATION OF FOUR POSSIBLE CONFIGURATIONS:

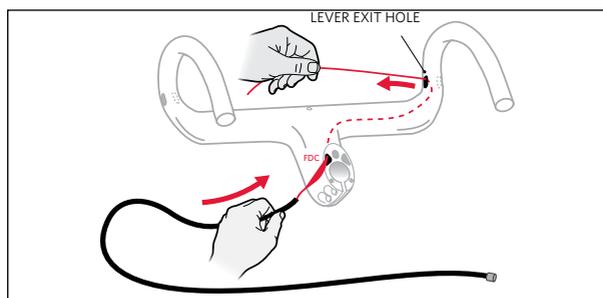
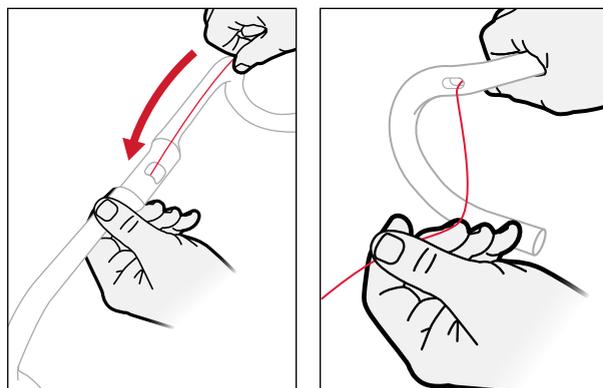
Drivetrain	Brakes	Configuration
Mechanical	Disc	FD housing/cable, RD housing/cable, FB hose, RB hose
Mechanical	Rim	FD housing/cable, RD housing/cable, FB housing, RB housing
Di2	Disc	FD and RD Di2 wires (from the Y wire), FB hose, RB hose
Di2	Rim	FD and RD Di2 wires (from the Y wire), FB housing, RB housing

## TOOLS AND MATERIALS REQUIRED

- Park Tool Routing Kit (IR-1 or IR-1.2)
- Shift levers
- Handlebar
- Tape measure

### DERAILLEURS

1. Push the routing wire through the bottom of the handlebar toward the FB lever exit hole.
2. Use the routing wire to pull the FD cable through the handlebar.

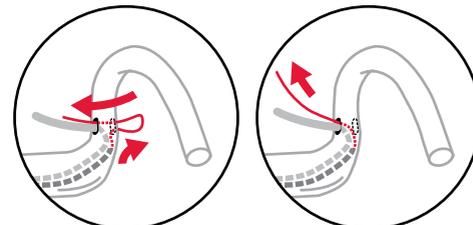


### FOR DI2 WIRES

3. Pass the FD Di2 wire through the hole on the outside of the handlebar, and then bend it back into the inner hole as shown.

4. Tape the FD Di2 wire to the handlebar.

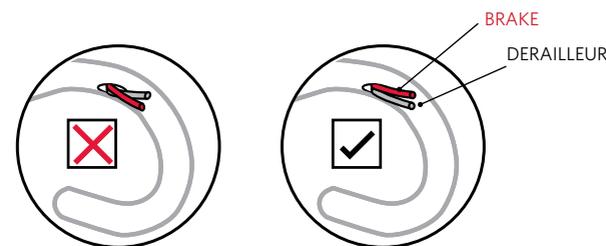
5. Repeat the routing procedure for the RD cable in the RB lever exit hole.



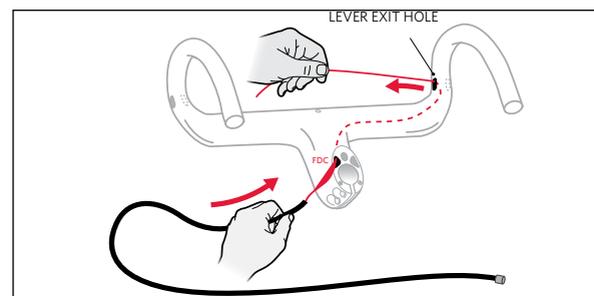
### BRAKES

6. Push the routing wire through the center of the handlebar toward the FB lever exit hole.
7. Use the routing wire to pull the FB housing through the handlebar.
8. When the routing wire exits the lever exit hole, use the wire to pull the housing through the handlebar and out the shifter hole. You can wiggle the housing a bit to help ease it through.

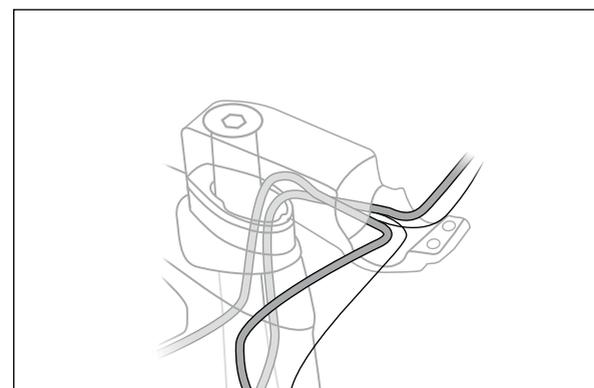
9. As the bike is oriented upright, the RB housing should be on the top of all other housings coming out the handlebar exit hole.



10. Repeat the procedure for the RB housing to the RB lever exit hole.



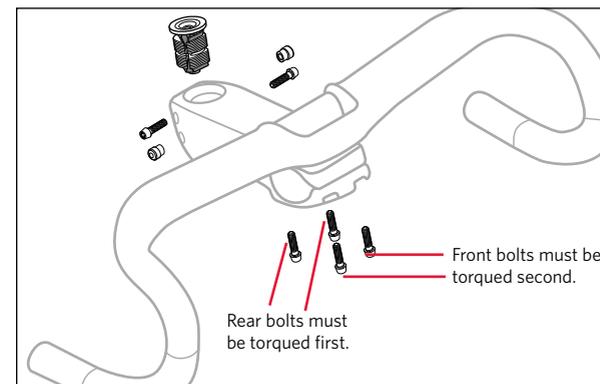
11. Place the handlebar in the stem.



**NOTE** You may need to pull out the brake and/or derailleur housings from the shift lever holes as you align the handlebar with the stem.

**DI2 NOTE** Make sure the JC200 connector is inside the stem and that the wires are not bunched or kinked.

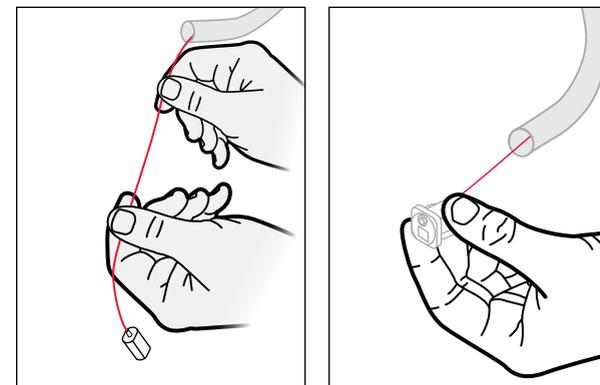
12. Attach the stem faceplate. Install the rear two bolts first.



**IMPORTANT: It is critical that the rear two bolts are torqued first; then torque the front two bolts.**

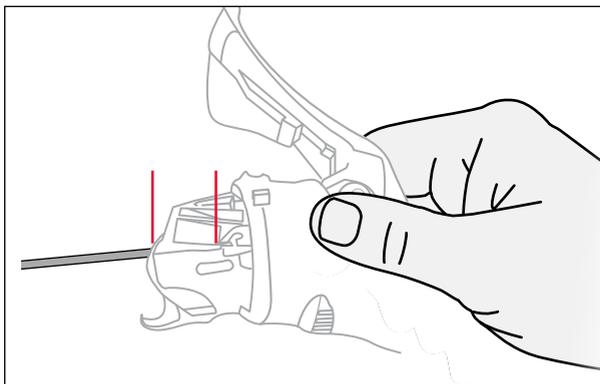
### DI2 ONLY

13. Install the Di2 wire for the charge port. One end of the wire plugs into the charge port. The other end connects to the handlebar shifter lever.

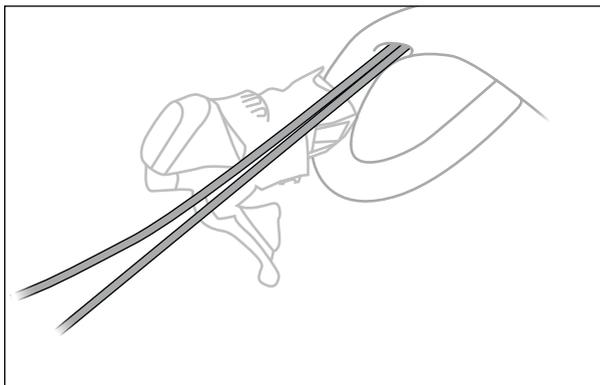


## INSTALL THE SHIFT LEVERS

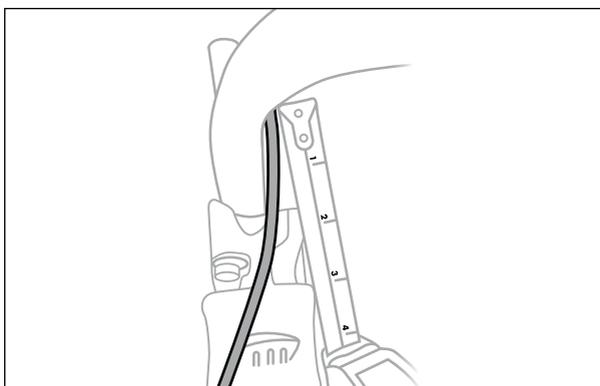
1. On the drive side, insert the RD housing and the RB housing into the applicable locations in the shifter body. Measure the depths of the seated housings. You will use these measurements later in step 4.



2. Place the drive side shift lever on the handlebar to the desired location.



3. Take the measurement from the rear of the handlebar exit hole to the housing insertion point on the shift lever.



4. Now add on your insertion depth from Step 1, plus another 10-20mm.

**Example for rear brake:**

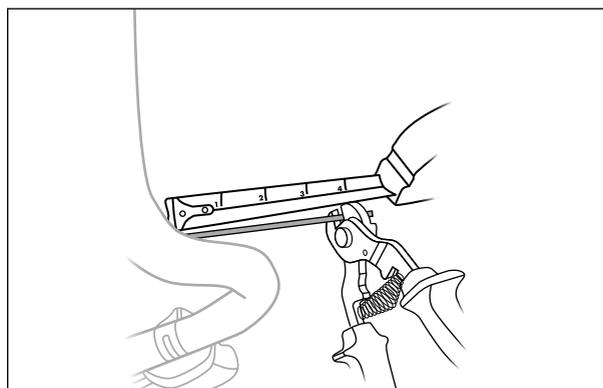
**Insertion depth (Step 1) = 40mm**

**Rear of exit hole to shifter body (Step 3) = 40mm**

**Add additional 10-20mm (Step 4) = 15mm**

**Total cut length would be 95mm**

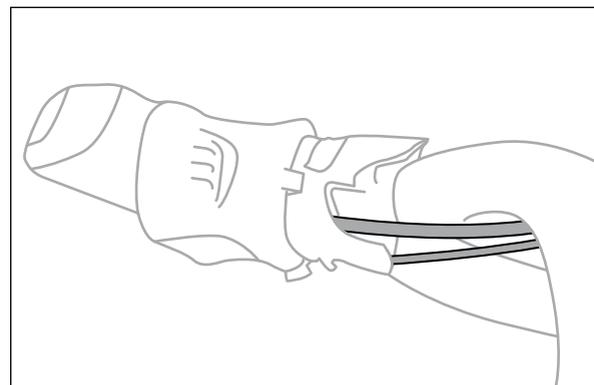
5. Make note of the shift lever location then move the shift lever down the handlebar to make room for cutting the housing.
6. Measuring from the rear of the handlebar exit hole, cut off the total length from the RD housing.



7. Re-install the RD housing ferrule.
8. Repeat Steps 1-6 for RB, FB, and FD housings.

9. Re-install the FD housing ferrule.

10. On the drive side, push the shift lever back up on the handlebar to the desired location while inserting the housings in place in the shifter body. Tighten the bolts to the recommended torque value.



11. Repeat Step 10 for the non-drive side shift lever.

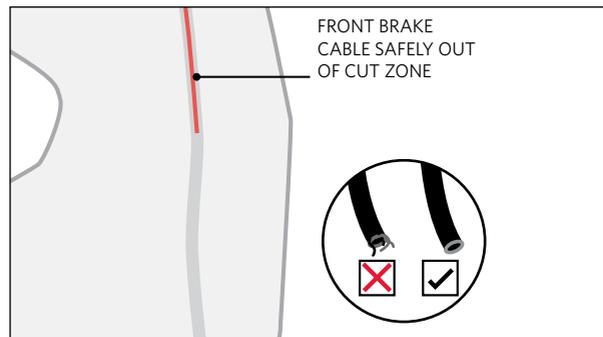
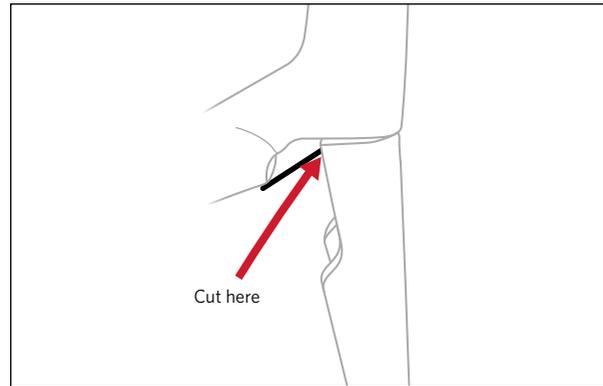
12. Route the derailleur cables back through the frame to their respective derailleurs.

**If you're installing rim brakes, go to Step 12-Install the Front Rim Brake on page 26.**

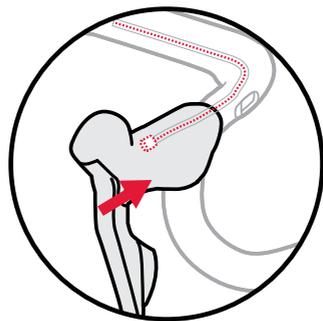
**If you have disc brakes, go to Step 15-Install and Adjust the Seatpost on page 31.**

## 12 INSTALL THE FRONT RIM BRAKE

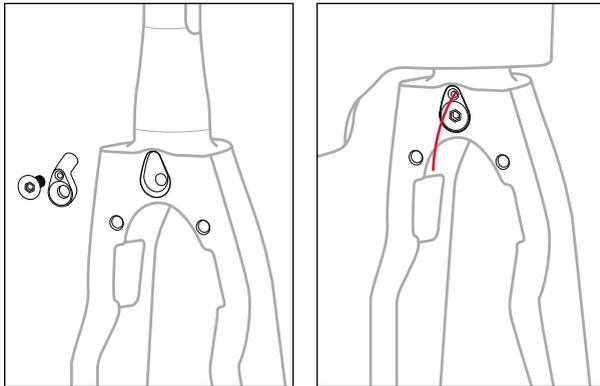
1. Pull the front brake cable a safe distance back from the housing end. Cut the brake housing flush with the rear surface of the fork.



2. Finish the end of the housing so that there are no sharp ends that could rub on the brake cable.
3. Install the brake cable and fully seat the cable end.

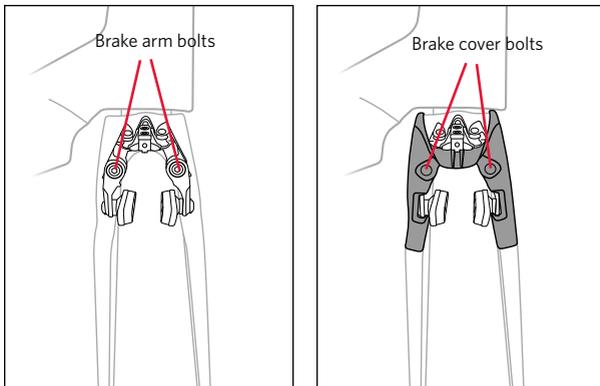


4. With the fork turned to full left, route brake cable through the housing stop, slip the housing stop up until you can fully seat the brake housing into the stop. Connect the brake housing stop to the fork and tighten the countersunk bolt to 6 Nm.



5. Install the front brake arms and tighten the bolts to the recommended torque.

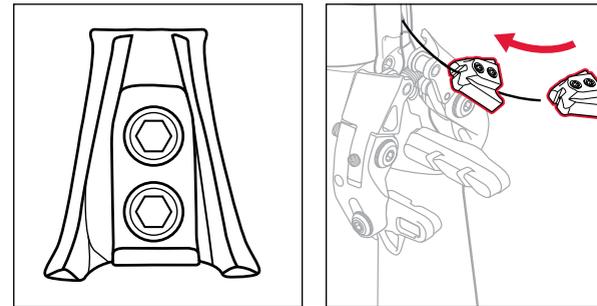
6. Install the brake cover and tighten the bolts to the recommended torque.



Go to Step 13-Adjust the Front Rim Brake on page 27.

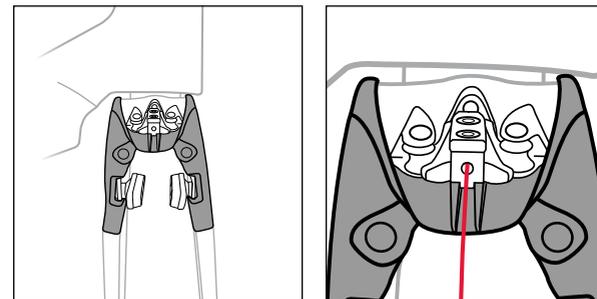
## 13 ADJUST THE FRONT RIM BRAKE

1. With the fork turned to full left, slide the brake wedge onto the cable. Do not tighten.

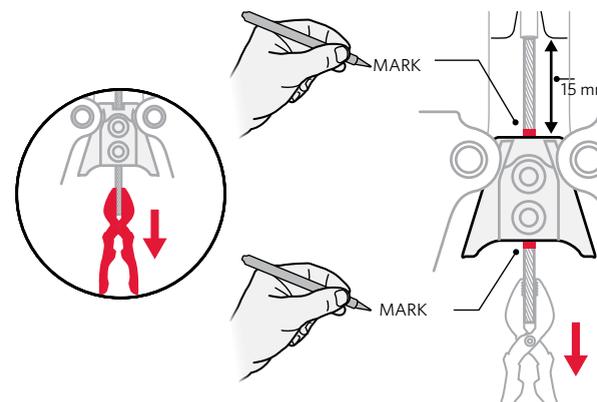


**NOTE** The front wedge is gold. The rear wedge is black.

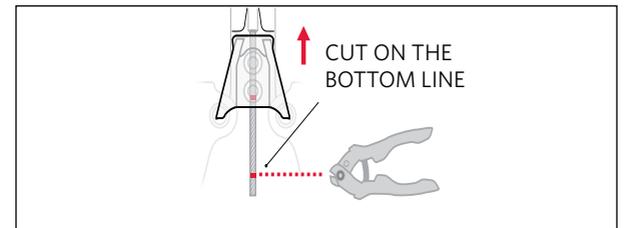
2. Slide the wedge up the brake cable and install it in the rollers of the brake arms at the 'home' location. Make sure the wedge sits in the brake cover groove.



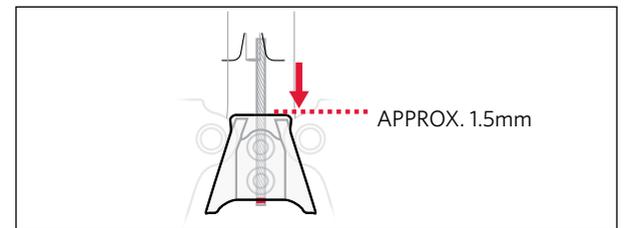
3. While you pull the cable tight, use a marker to draw a line on the brake cable at both the top and bottom edges of the brake wedge.



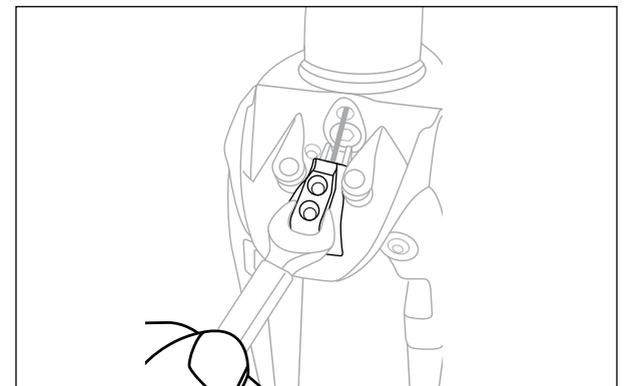
4. Remove the wedge from between the rollers and slide it up the cable (towards fork). Cut the cable at the bottom line.



5. Slide the wedge back down to just bury the top cable mark inside the wedge approximately 1.5mm.



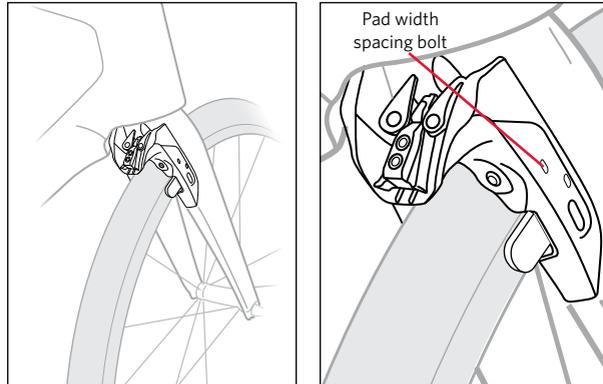
6. While you hold the wedge flat with a 9mm wrench, tighten the cable clamp screws to the recommended torque.



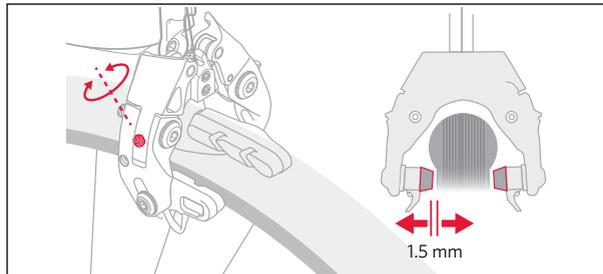
7. Reinstall the wedge between the brake arm rollers.
8. Install the front wheel.
9. If needed, replace the brake pads to correspond to the rim material (carbon vs. aluminum). The pad retention screw must be installed to retain the pads.
10. Loosen the pad carrier bolts, lightly engage the brake, and position the pads on the rim. Tighten the pad carrier bolts to 5 Nm.

**11.** Squeeze the brake lever fully to seat the housing and to stretch the brake cable.

**12.** Symmetrically adjust the spacing between the pads and the rim with the pad width spacing bolts.



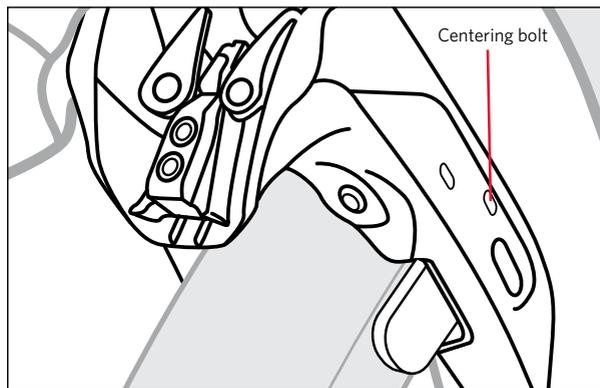
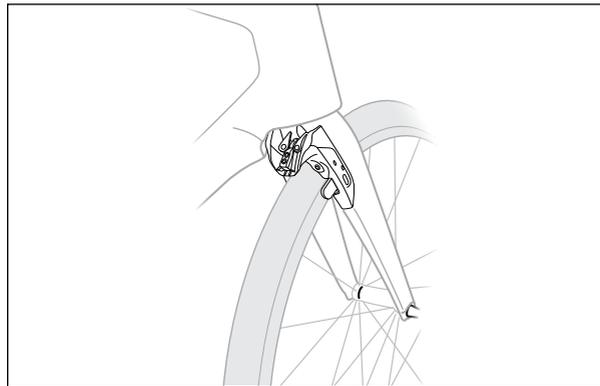
**13.** Keeping the brake wedge centered, there should be about 1.5mm clearance between a pad and the rim. You'll center precisely in the next steps.



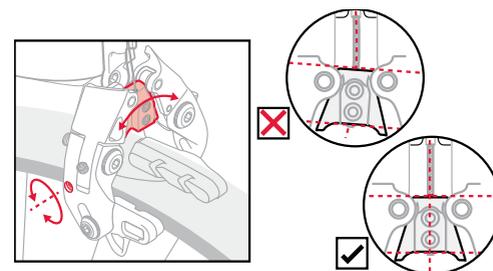
**NOTE** Do not use the wedge height to adjust for rim width. If the wedge is positioned incorrectly, it may rub on the cover.

**14.** Symmetrically adjust the centering bolts to adjust the lever feel.

**15.** Use the appropriate centering bolt to make the final centering adjustment.



**NOTE** For example, tightening the drive side centering bolt will pull the drive side pad away from the rim and vice versa.



**16.** Tighten stem pinch bolts to recommended torque.

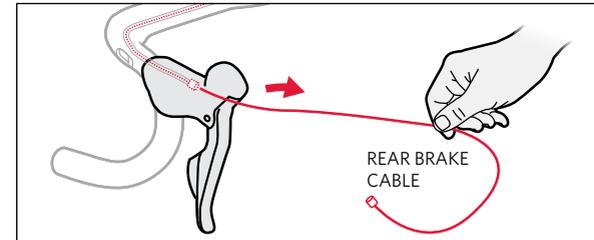
**Go to Step 14-Install the Rear Rim Brake on page 29.**

## 14 INSTALL THE REAR RIM BRAKE

### TOOLS AND MATERIALS REQUIRED

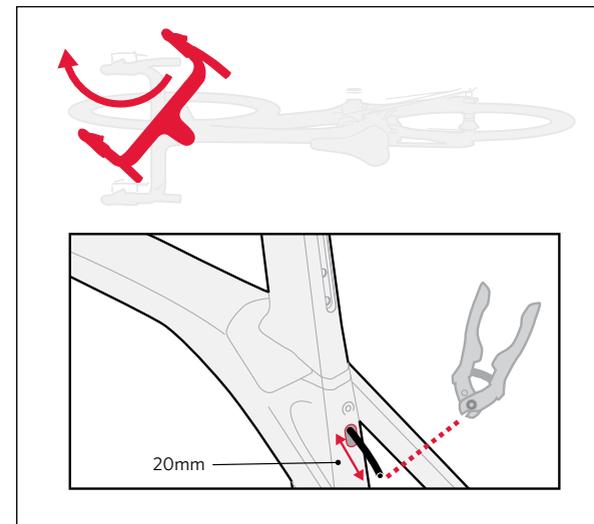
- Housing stop and bolt
- Cable cutter
- Ferrule with integrated liner
- Pliers

**1.** Pull the rear brake cable slightly out of the lever.



**2.** Remove the tape from the housing at the frame.

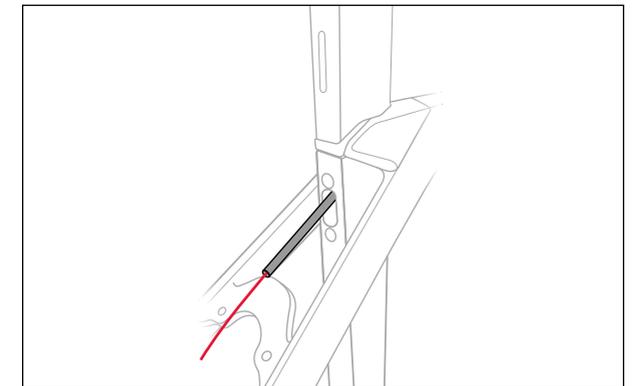
**3.** With the handlebar rotated all the way to the right, cut the rear brake housing so that it extends 20mm out the back of the seat tube.



**4.** Check the RB housing extending from the rear of the frame. If necessary, finish the end of the housing to make sure there are no sharp ends to rub the brake cable.



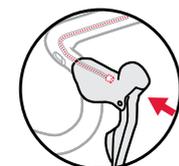
**5.** Route the rear brake cable through the housing from the drive side shift lever back to the frame exit hole.



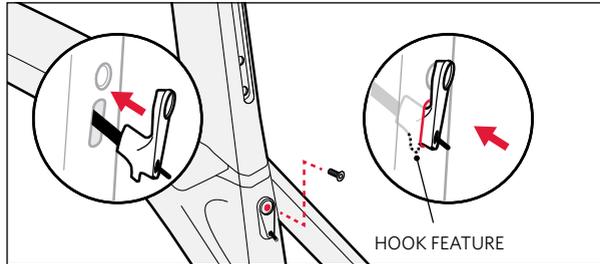
**6.** Install the end cap with integrated liner.



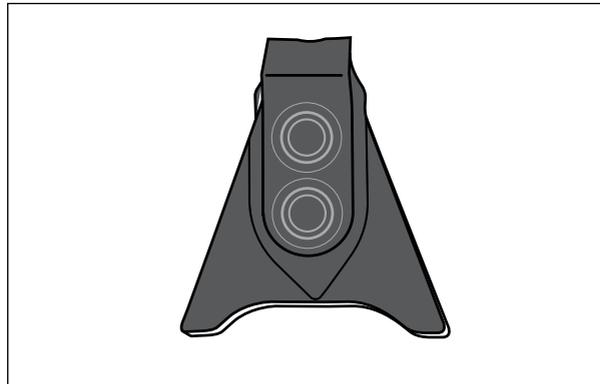
**7.** Fully seat the brake cable head in the shift lever.



8. Pass the brake cable and lined end cap into the rear brake housing stop.
9. Push the excess housing back into the frame until the hook feature of the housing stop engages the bottom of the slot on the inside of the damper housing.
10. Install the M4 countersunk bolt and torque to the recommended value.



11. Proceed with the same assembly steps used in the setup of the front rim brake, including wedge installation and brake adjustment.



**NOTE** The wedge for the rear brake is colored black.

**Go to Step 15-Install and Adjust the Seatpost on page 31.**

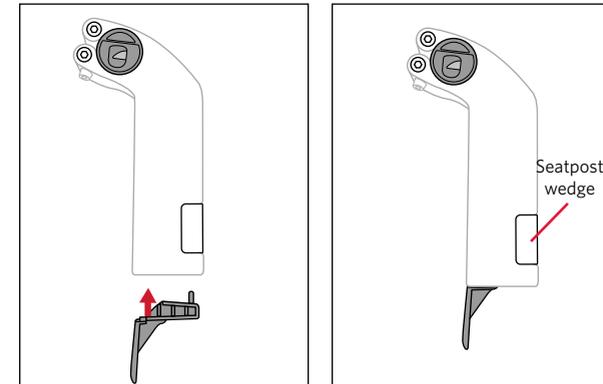
## 15 INSTALL AND ADJUST THE SEATPOST

### TOOLS AND MATERIALS REQUIRED

- Saddle
- Seatpost wedge and bolts
- Long stem 5mm hex wrench
- Seatpost
- Lower seal
- Torque wrench

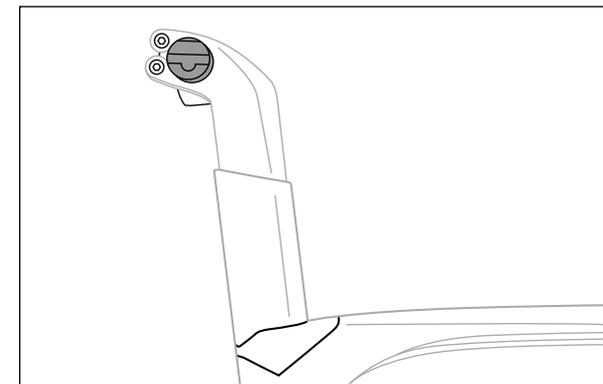
1. Remove any tape or rubber band from around the seatpost wedge prior to installation.

2. Install the lower seal into the bottom of the seatpost.

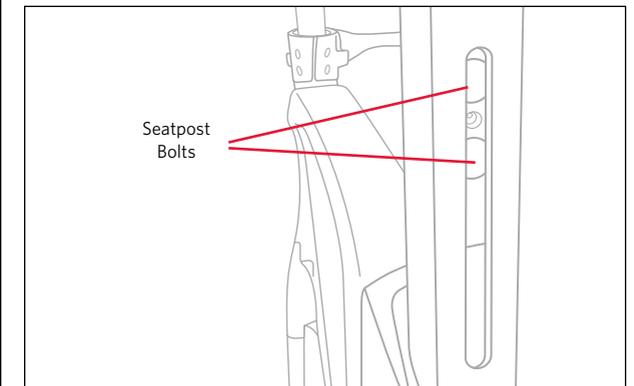


**NOTE** For full seatpost insertion, you may need to remove the lower seal.

3. Insert the seatpost into the seatmast. Be sure to have the wedge placed in the seatpost prior to insertion.

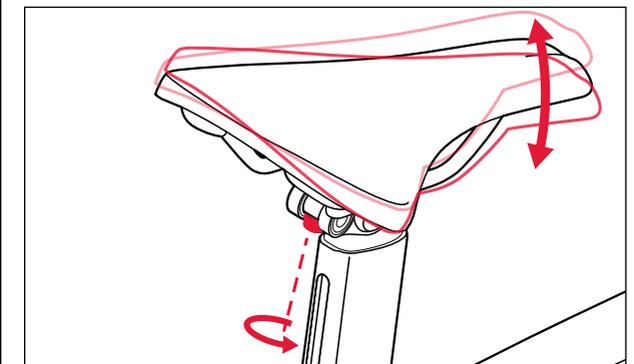


4. Tighten the bolts just until the seatpost and wedge are snug. Do not fully tighten yet.

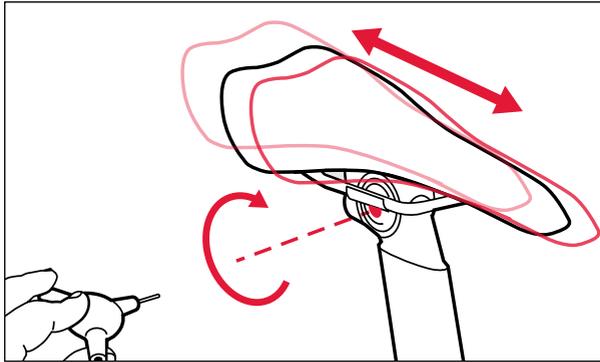


5. Install the saddle. Make sure the clamp ear correctly fits the saddle rail shape.

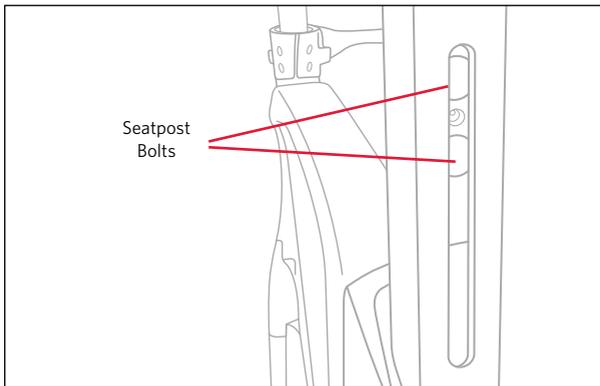
6. To adjust the angle of the top of the saddle, loosen the rear pinch bolt, adjust the angle, then re-tighten the bolt.



- 7.** To adjust the fore/aft position of the saddle, loosen the side rail clamp bolt, slide the saddle, then re-tighten the bolt.



- 8.** To adjust the seat height, loosen two seatpost clamp bolts, adjust the height, and re-tighten the bolts to the recommended torque value.



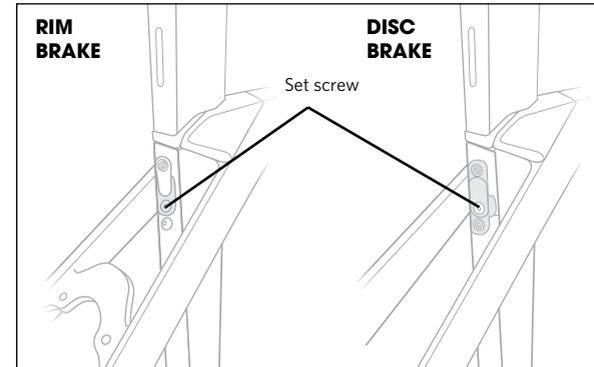
**NOTE:** Use a long stem 5mm socket on your torque wrench to tighten the seatpost bolts. This will allow an improved fit on the bolt and will prevent wrench marks on the bike finish.

## 16 ADJUST THE ISOSPEED SYSTEM

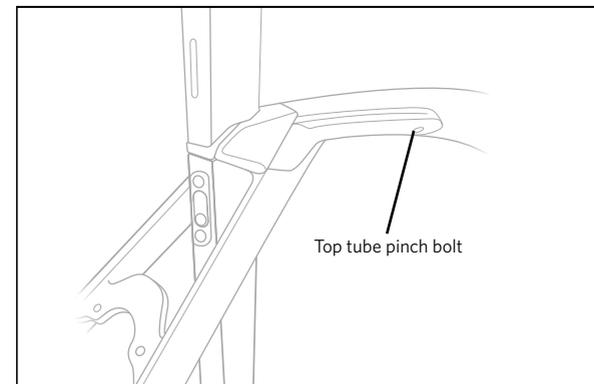
### TOOLS REQUIRED

- 2.5mm hex wrench
- 4 mm hex wrench

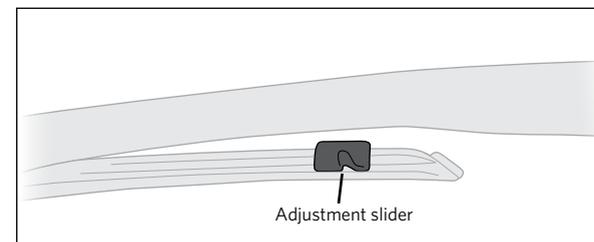
- 1.** From the rear base of the seatmast, use the 2.5mm hex wrench to loosen the damper preload set screw out 5mm.



- 2.** Under the top tube, use the 4mm hex wrench to remove the top tube pinch bolt.



The seatmast and decoupler will tip forward to expose the adjustment slider.



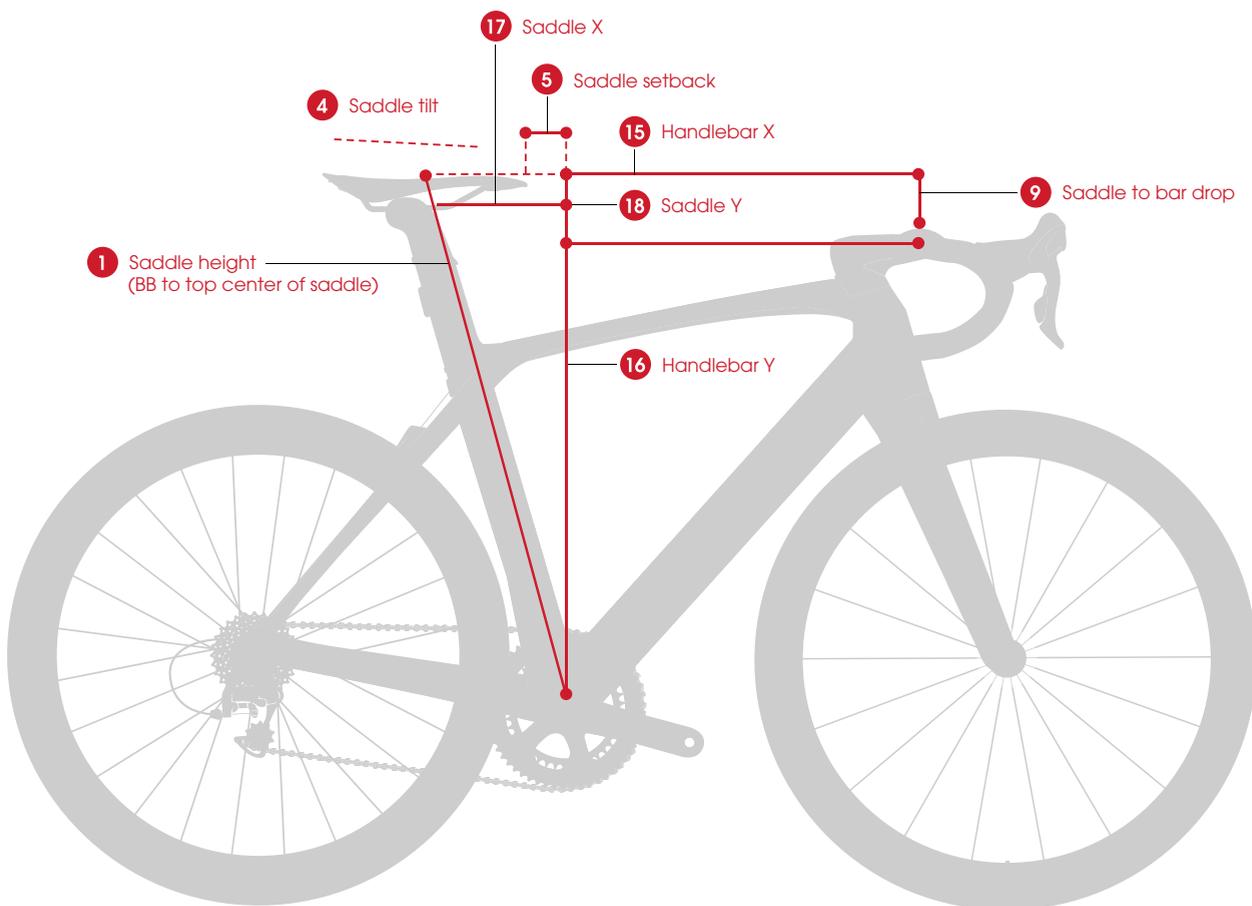
- 3.** Reference the slider decal to help determine the desired setting.

**NOTE** Moving the slider forward will allow more deflection and greater flex. Moving the slider rearward will cause less deflection and a stiffer ride.

- 4.** Tighten the top tube pinch bolt to the value on the top tube decal.

- 5.** Tighten the damper preload set screw to 2Nm.

## 17 FIT MEASUREMENTS



### BIKE MEASUREMENTS (CM)

1	Saddle height		10	Stem length/angle	
2	Saddle model		11	Handlebar width	
3	Saddle size		12	Handlebar model	
4	Saddle tilt		13	Headset spacer height	
5	Saddle setback		14	Crank arm length (mm)	
6	Seatpost offset		15	Handlebar X coordinate	
7	Saddle tip to bar		16	Handlebar Y coordinate	
8	Saddle tip to shifter		17	Saddle X coordinate	
9	Saddle to bar drop		18	Saddle Y coordinate	

## 18 SERVICE INFORMATION

### Di2 Handlebar Specifications for Reference

Frame Size	Bar Size	Y-Wire Spec	Charge port to DS Shifter
50	40	JC130-SM [350mm/50mm/450mm] JC130-MM [550mm/50mm/550mm]	SD50 -[350mm]
52			
54	42		
56			
58	44		
60			
62			

### Di2 Frame Specifications for Reference

Frame Size	Stem to DT Junction B	Battery to DT Junction B	FD to DT Junction B	
50	SD50 -[650mm]	SD50 -[150mm]	SD50 -[550mm]	RD to DT Junction B SD50 -[950mm]
52	SD50 -[650mm]			
54	SD50 -[700mm]			
56	SD50 -[700mm]			
58	SD50 -[750mm]			
60	SD50 -[750mm]			
62	SD50 -[800mm]			



