



## AR Owner's Manual

# Felt AR InternaLoc Seatpost Assembly and Cable Routing Manual

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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.



## VM Saddle Clamp Assembly



### AR Seatpost & Small Parts

- 1. Saddle Clamp Upper (x2)
- 2. Saddle Clamp Adjustment Head Half (x2)
- 3. Saddle Clamp Lower Clamp (x2)

- 4. Saddle Clamp Binder Nut with Keyway
- 5. Saddle Clamp Binder Bolt
- 6. VM Seatpost

### Step 1



Locate the two AR saddle clamp Uppers and place each into a saddle clamp adjustment Head Half, positioning them so the hooked surfaces are adjacent and can grip a seatpost rail.

### Step 2



Locate the two AR saddle clamp Lowsers and place each onto a saddle clamp Upper, aligning the holes with the oval-shaped holes of the saddle clamp Uppers as illustrated below.

### Step 3



The parts should appear as the image on the left, in two stacks of three pieces, with the bolt, nut and seatpost remaining.

#### Step 4

Place the bolt and nut threads-down into the holes of the two stacks of pieces as pictured, aligning tooth on nut to slot in saddle lower clamp.

Note: Grease bolt threads.

#### Step 5

Being cautious to maintain the order of parts in each stack, turn each stack upside down on the table so now the threads face away from the table.

The chamfer of the adjustment head half will be placed in contact with the chamfered surface of the seatpost. Apply friction paste between surfaces.

## Step 6

Pick up one stack and place it thread-side down into the seatpost so the chamfer of the adjustment head half is in contact with the chamfer of seatpost alloy insert as pictured.



## Step 7

Holding the remaining stack of pieces in place on the other side of the seatpost, align the bolt threads with the nut threads and tighten 2 to 3 turns.



## Step 8

Slide the saddle into the saddle clamp assembly beginning from the rear of the saddle.

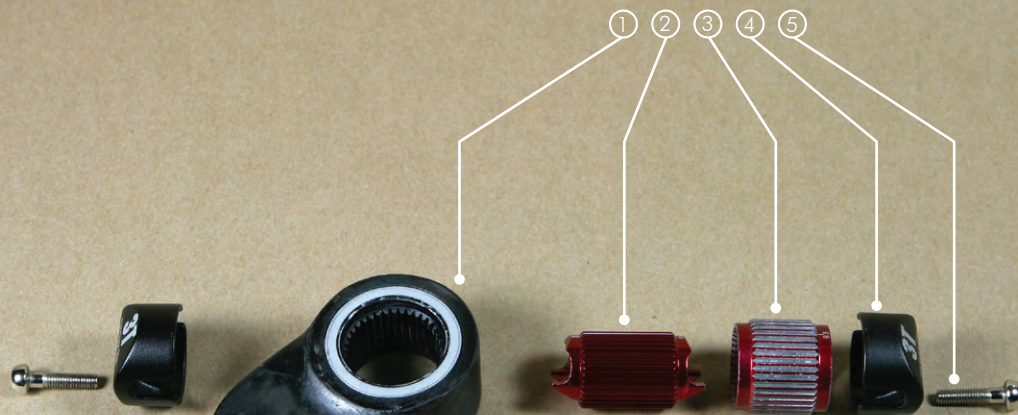


## Step 9

Once saddle angle and fore/aft position are adjusted, tighten the saddle clamp bolt to 10-12 nm of torque.



## VR Saddle Clamp Assembly

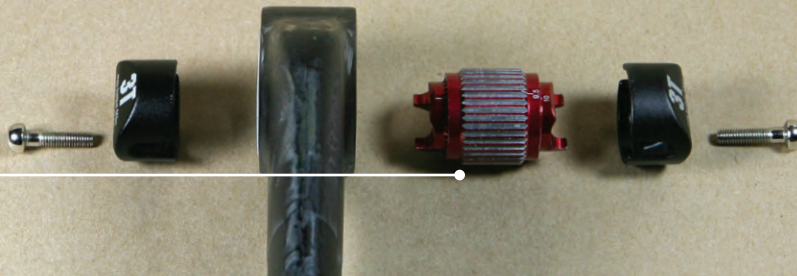


### VR Seatpost & Small Parts

1. VR Seatpost
2. 3T Saddle Clamp Inner Splined Adjustment Cylinder
3. 3T Saddle Clamp Outer Splined Adjustment Cylinder
4. 3T Saddle Clamp Outer Clamp
5. 3T Saddle Clamp Binder Bolt

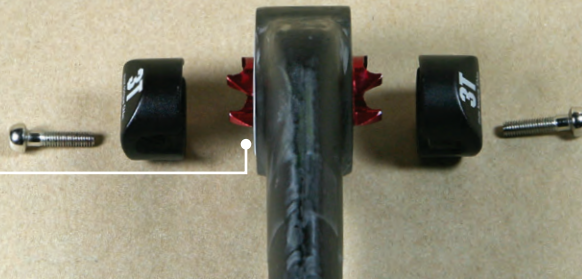
### Step 1

Slide the Inner Splined Adjustment Cylinder into the Outer Splined Cylinder as pictured.



### Step 2

Slide the Inner and Outer Splined Adjustment Cylinder assembly into the VR seatpost as pictured.



### Step 3

Place the Outer Clamp pieces over either end of the Inner and Outer Adjustment Cylinder assembly and insert binder bolts through the hole on the face of the Outer Clamp pieces as pictured. Align threads on binder bolts with the threads on Inner Splined Adjustment Cylinder.



Note: The 3T Outer Clamp parts supplied are for 7mm round rails. Optimal Outer Clamp pieces are available for other saddle rail options from 3T.

#### Step 4

Slide the saddle rails onto the clamp assembly starting at the back of the saddle.



#### Step 5

Install the AR/3T saddle clamp Outer Clamp and Binder Bolt assembly, one on each side of the VR seatpost, and adjust the saddle fore/aft position and angle. Tighten the Binder Bolt to 5 nm.

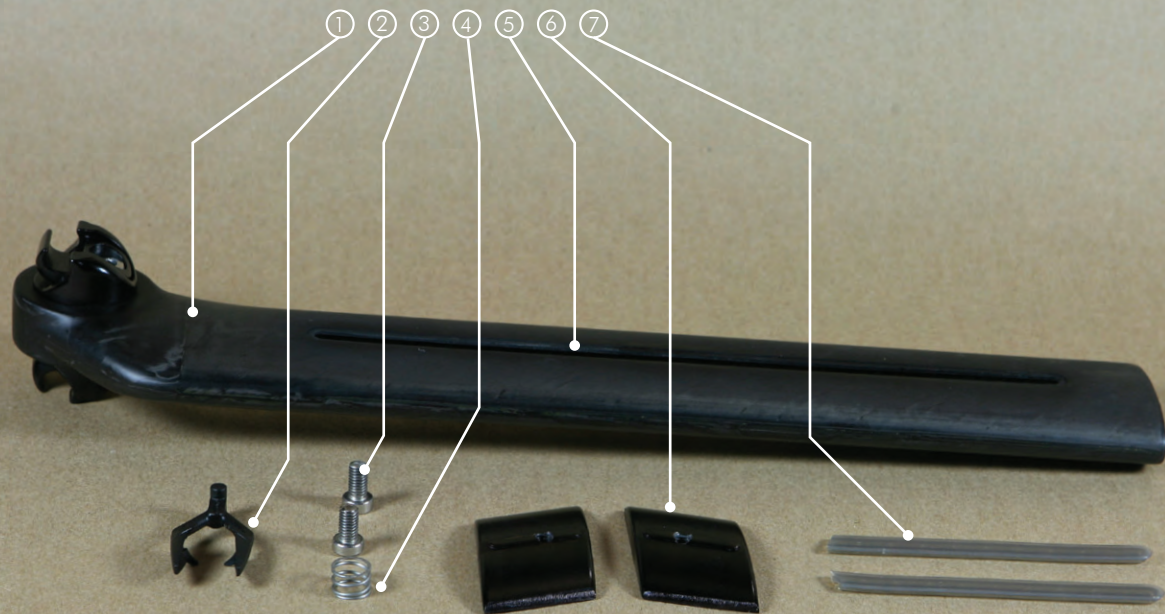


## Felt AR: Seatpost Assembly

The Felt AR can carry the battery to power Shimano Di2 inside the aerodynamic seatpost using a mounting clip supplied with the seatpost. —————



## InternaLoc Seatpost Assembly



### AR Seatpost Parts

1. AR Seatpost
2. Shimano Di2 Battery Clip
3. Seatpost Binder Bolts
4. Compression Spring

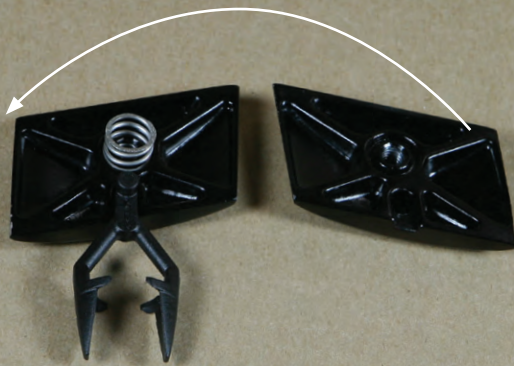
5. Seatpost Slot
6. InternaLoc Seatpost Wedge
7. Seatpost Seals

## Step 1

The Shimano Di2 Battery Clip and Compression Spring mount between the two halves of the black InternalLoc Seatpost Wedge. This Shimano Di2 Battery Clip hangs inside the InternalLoc Seatpost Wedge assembly.

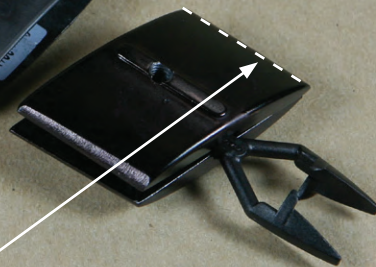


To install the Shimano Di2 Battery Clip and Compression Spring into the InternaLoc Seatpost Wedge, place one half of the InternaLoc Seatpost Wedge on a flat surface. Place one of the round mounting pins at the top of the Shimano Di2 Battery Clip into the small indent toward the bottom edge of the first half of the black InternaLoc Seatpost Wedge. Place the Compression Spring into the larger indent at the center of the InternaLoc Seatpost Wedge. Place the other half of the InternaLoc Seatpost Wedge on top of the bottom half seating spring and Shimano Di2 Battery Clip mounting pin in the appropriate indentations.



## Step 2

After the Shimano Di2 Battery Clip and Compression Spring are installed in the two halves of the InternaLoc Seatpost Wedge, orient the seatpost and battery mount assembly so the bottom edge will slant downward toward the ground at the front of the bike. The leading edge of the assembly will extend downward to be the lowest point when hanging from the seatpost.



Note: Apply a thin coat of carbon friction paste on the surface of aluminum InternalLoc Seatpost Wedge that will contact the carbon fiber surface of seatpost to prevent slipping or noise.



Squeeze the assembly together with the front being the lowest point (angled downward toward the front of the bike) and insert it into the bottom of the seatpost.




Slide the assembly up into the seatpost until the guides on each side of the internal seatpost wedge snap into the slots on each side of the seatpost. Be sure to keep the assembly at the bottom of the seatpost for now.

### Step 3

The Shimano Di2 SM-BTR2 cylinder shaped battery installs in the bottom of the clip that you installed between the two halves of the InternalLoc Seatpost Wedge in Step 2. To install the battery, first slide a soft "O" ring over the Shimano SM-BTR2 battery.





With the battery cable connector facing downward, push the battery into the claw-shaped clip until the brackets on the clip snap into place on the battery.

Before moving on to Step 4, installing the seatpost assembly into the AR bike frame, be sure to attach the Shimano Di2 wire to the battery so the derailleurs can be powered by the Shimano Di2 SM-BTR2 cylinder-shaped battery.

#### Step 4

Install the Seatpost Assembly into the AR Bike Frame.

Note: Application of carbon fiber assembly paste to the outer surface of seatpost to insertion point and inside seat tube highly recommended.

### Step 5

Slide the seatpost assembly into the AR frame. Look for the threaded holes in the InternaLoc Seatpost Wedge; they will be visible through the holes in the seat tube at the top of the AR bike frame. Be sure to apply grease or anti-seize to bolt threads.



Install the two seatpost binder bolts, one on each side into the holes at the top of the AR bike frame so they thread smoothly into the InternaLoc Seatpost Wedge inside the seatpost. Once the saddle height is adjusted, tighten the seatpost binder bolts on each side using a torque wrench set to 6-8 nm of torque. Do not tighten completely until saddle height is verified.



## Step 6

Install the seatpost seals by starting at the top and applying light pressure on the seal while placing it in the vertical slot in the seatpost.



The seatpost seal will gently snap into place. After confirming your saddle height, cut the seatpost seal to length with about 2-4mm of extra length to insert between the seatpost and inside of the seat tube of the frame.





Seatpost pictured is installed correctly, saddle height confirmed, and seatpost seals cut to appropriate length.

# Felt AR Cable Routing

Mechanical and Electronic Wiring

## Part IV AR Mechanical Compatible Frame

Mechanical Routing Instruction . . . . . Pg. 24-34

Electronic Wiring Instruction . . . . . Pg. 35-45

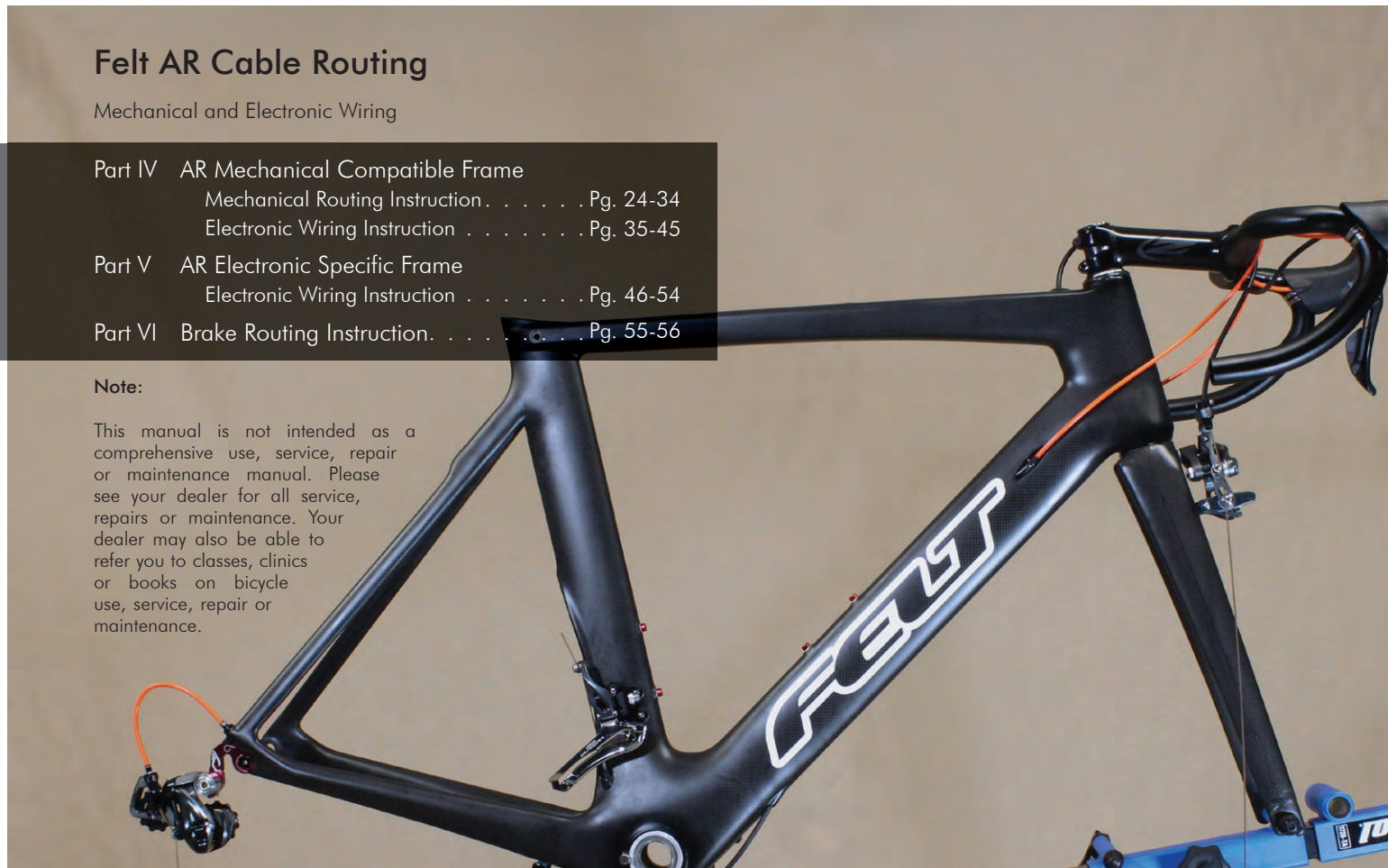
## Part V AR Electronic Specific Frame

Electronic Wiring Instruction . . . . . Pg. 46-54

## Part VI Brake Routing Instruction. . . . . Pg. 55-56

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## AR Mechanical Cable Routing Road Map

● Rear Derailleur Cable to Shifter

● Rear Brake Cable to Brake Lever

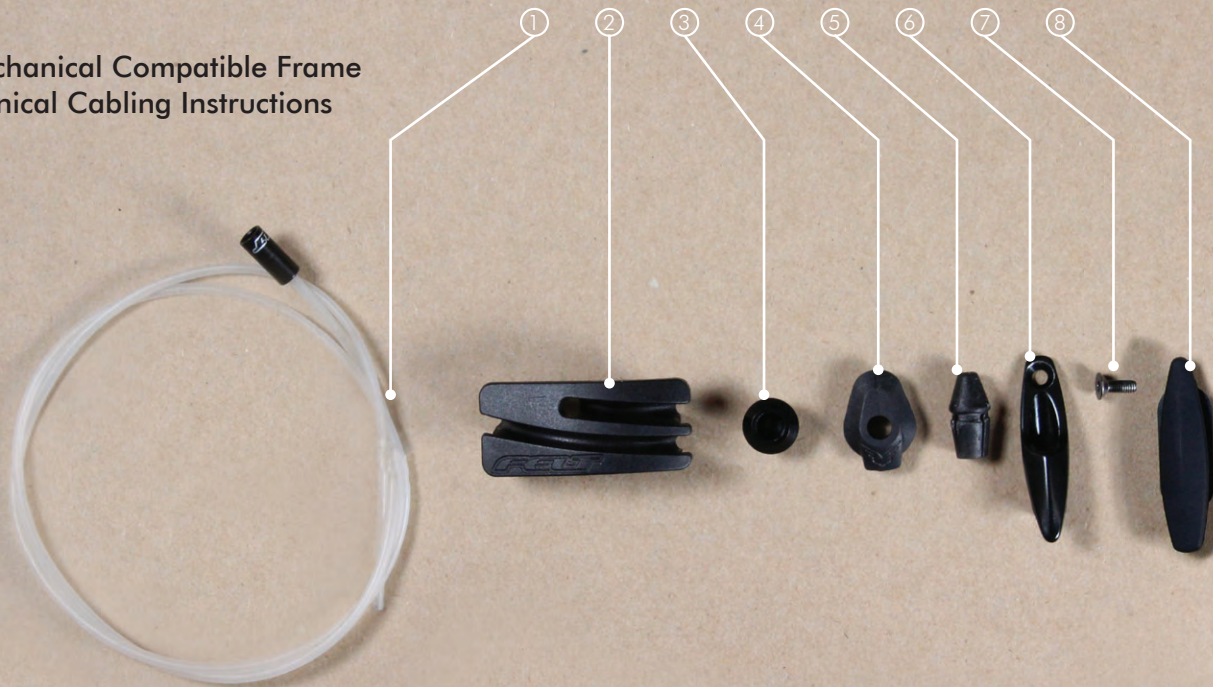
● Front Derailleur Cable to Shifter



## Part IV

### AR Mechanical Compatible Frame

### Mechanical Cabling Instructions



#### AR Cable Routing & Small Parts

##### 1. Mousetail Ferrule

- DT - Front Derailleur - 800mm
- DT - Rear Derailleur - 300mm
- CS - Rear Derailleur - 550mm

##### 2. Bottom Bracket Cable Guide

##### 3. Rear Dropout Cable Stop

##### 4. Single Hole Top Tube Grommet

##### 5. Front Derailleur Grommet

##### 6. Downtube Cable Stop (x2)

##### 7. Downtube Cable Stop Bolt (x2)

##### 8. Downtube Grommet

## Mechanical Compatible Frame Mechanical Routing

### Step 1

a. If the downtube cable hole is plugged  
remove the Downtube Grommet.



b. Replace the Downtube Grommet with  
the Downtube Cable Stop and securely  
fasten it with the Downtube Cable Stop  
Bolt.



## Right Shifter Cable

### Step 2

a. Route shifter cable through 800mm Moustetail. Then Route through the Downtube Cable Stop to the hole in the bottom bracket.



## Rear Grommet & Mousetail

### Step 3

a. If no Cable Stop is present on drive-side dropout, locate the Dropout Cable Stop so the rear derailleur cable can be installed.



b. Insert the shaft of the Dropout Cable Stop so it looks like the figure below.



c. Thread a shifter cable into the Mousetail Ferrule. Next, thread the cable through the dropout grommet and advance the cable until it exits the hole in the bottom bracket. Slide the Mousetail toward the end of the shifter cable, until the ferrule meets the dropout grommet. When finished, remove the shifter cable.





## Left Shifter Cable

### Step 4

Repeat steps 1 and 2 to install mechanical shifter cable housing on the left side of the frame. Keep tension on right shifter cable as to not cross cables within the frame.

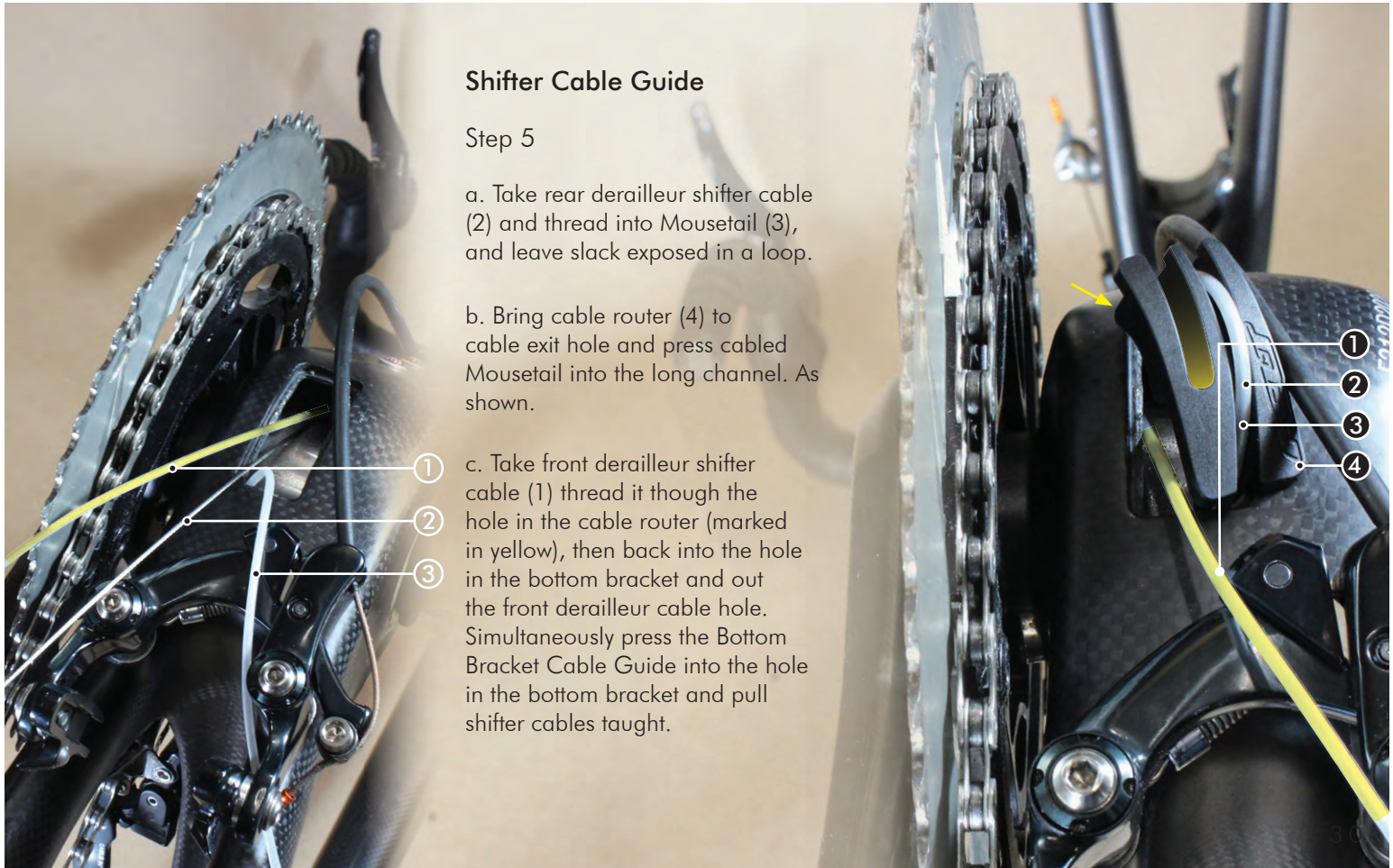
## Shifter Cable Guide

### Step 5

a. Take rear derailleur shifter cable (2) and thread into Moustetail (3), and leave slack exposed in a loop.

b. Bring cable router (4) to cable exit hole and press cabled Moustetail into the long channel. As shown.

c. Take front derailleur shifter cable (1) thread it through the hole in the cable router (marked in yellow), then back into the hole in the bottom bracket and out the front derailleur cable hole. Simultaneously press the Bottom Bracket Cable Guide into the hole in the bottom bracket and pull shifter cables taught.





## Bottom Bracket Cable Guide

### Step 6

The correctly installed Bottom Bracket Cable Guide should look as pictured.



## Rear Cable Routing

### Step 7

Add a length of cable shifter housing between the ferrule in the dropout and the rear derailleur.

## Front Derailleur Cable

### Step 8

a. The front shifter cable should now be protruding from the hole in the frame between the derailleur mount and bottom bracket, with about 1 in of Moustail exposed. If too long, trim Moustail.

b. Slide the front derailleur shifter grommet over the cable and press-fit into place as shown to prevent slipping of cable and Moustail.



All AR Shifter Cables Installed!



## AR Mechanical Compatible Electronic Wire Routing Road Map

(Wiring road map is identical for both  
mechanical compatible and FRD framesets)

● Downtube Cable Battery to Junction

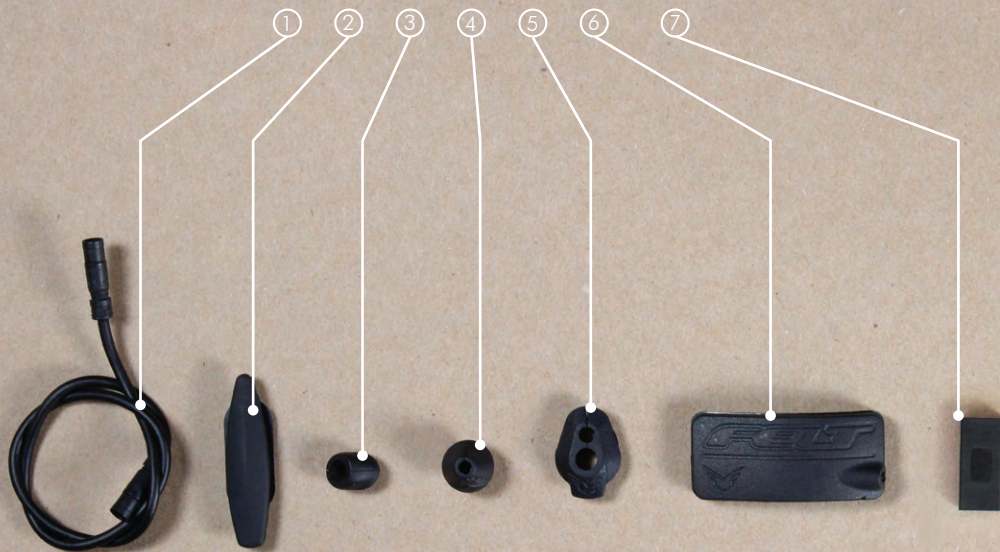
● Front Derailleur Cable to Junction

● Rear Derailleur Cable to Junction

● Downtube Cable Brain to Junction



## AR Mechanical Compatible Frame Electronic Wiring Instructions



### AR Cable Routing & Small Parts

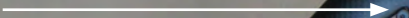
1. \*Shimano Di2 Wires
2. Downtube Grommet (x2)
3. \*Shimano 8mm Front Derailleur Grommet


4. Rear Dropout Grommet
5. Top Tube Double Hole Grommet
6. Bottom Bracket Grommet
7. \*Junction B

\*not included with AR frame

## Plug Downtube For Wiring

### Step 1

a. If the Downtube Cable Stop is installed, loosen the bolt and remove it. 

b. Replace the Downtube Cable Stop with the Downtube Grommet. Press-fit into place as pictured. 

## Shifter Junction Wire

### Step 2

Route wire from hole in top tube, into the downtube so the end is at the bottom bracket hole.

## Brake Cable Electronic Wire

Tip: to make routing easier, tape the end of the wire to the end of a piece of brake cable (as a steel cable is easier to route than a wire or housing). Once cable is visible through exit hole, pull through and remove tape.

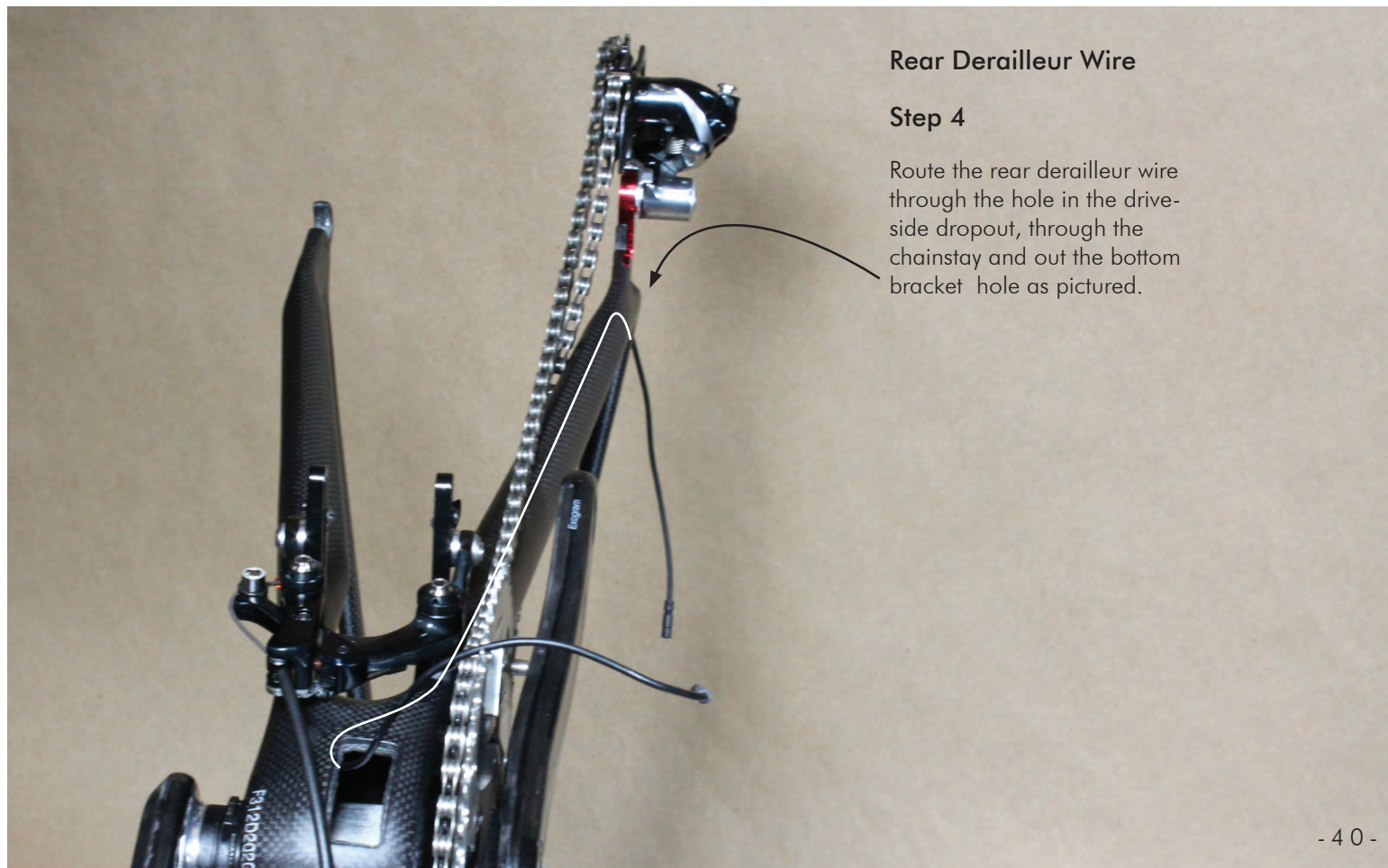


## Front Derailleur

### Step 3

- a. Press-fit Front Derailleur Grommet into the front derailleur cable exit hole.

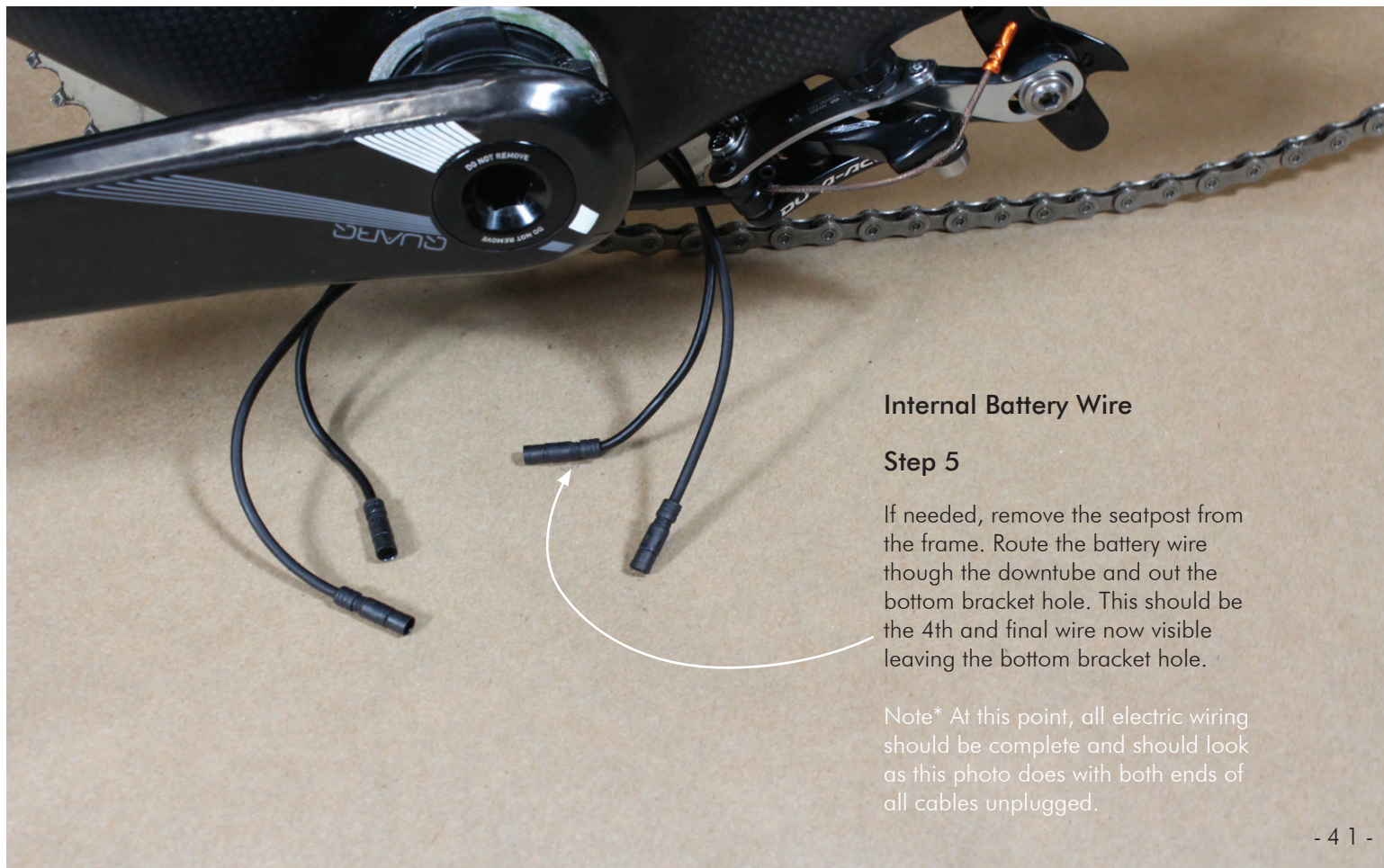




## Rear Derailleur Wire

### Step 4

Route the rear derailleur wire through the hole in the drive-side dropout, through the chainstay and out the bottom bracket hole as pictured.

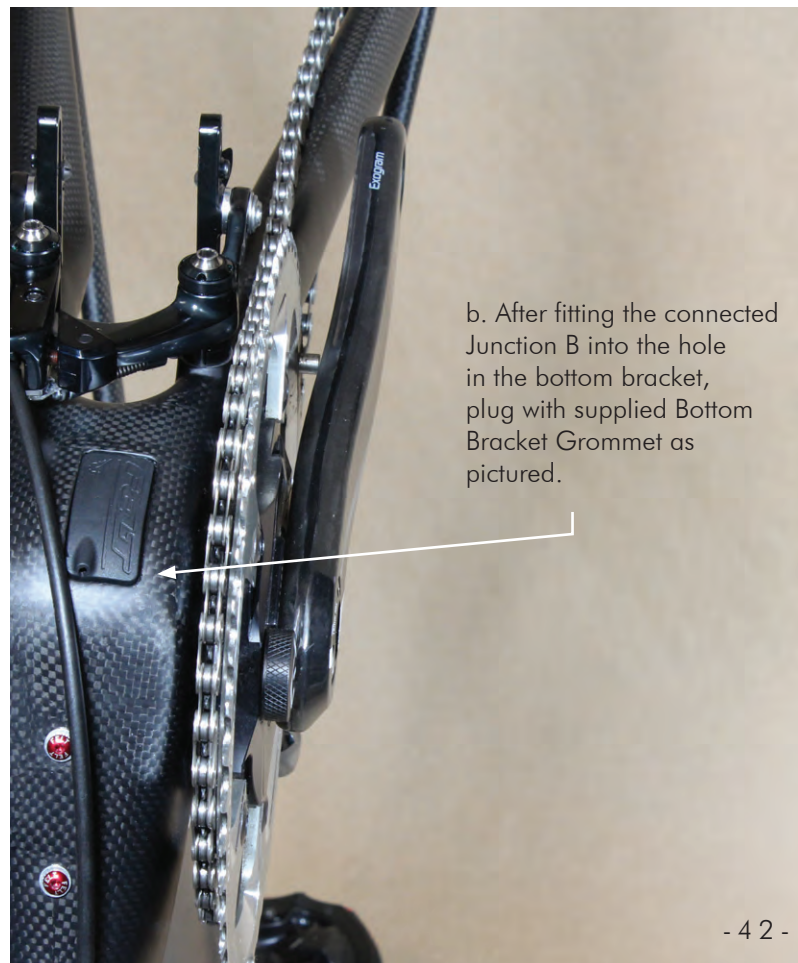


## Internal Battery Wire

### Step 5

If needed, remove the seatpost from the frame. Route the battery wire through the downtube and out the bottom bracket hole. This should be the 4th and final wire now visible leaving the bottom bracket hole.

Note\* At this point, all electric wiring should be complete and should look as this photo does with both ends of all cables unplugged.



## External Battery Wire

### Step 6 (alternative)

When using an external battery, plug the battery Di2 Wire into the battery port (A). Fit Junction B into the bottom bracket hole and finish by fitting the Bottom Bracket Grommet in place as pictured to the right.



## Battery Wire

### Step 7

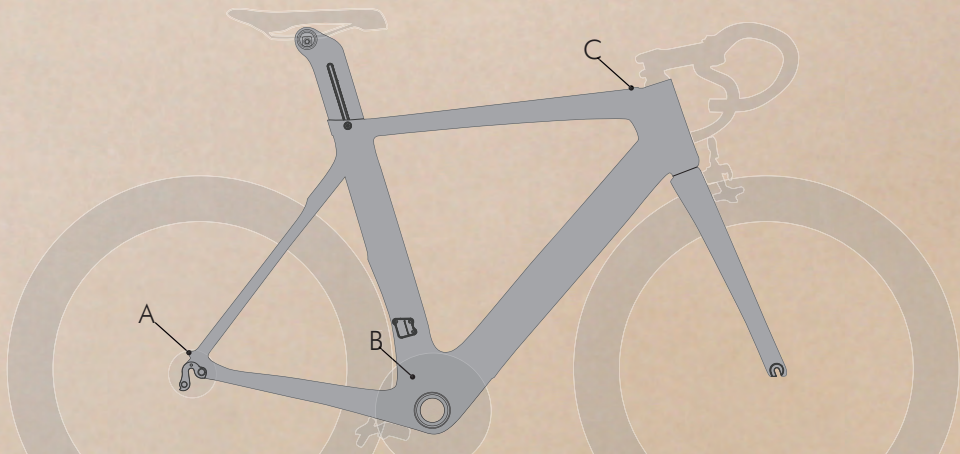
a. Plug in Shimano battery to power wire. Then replace seatpost properly. Refer to the AR seatpost section if needed.



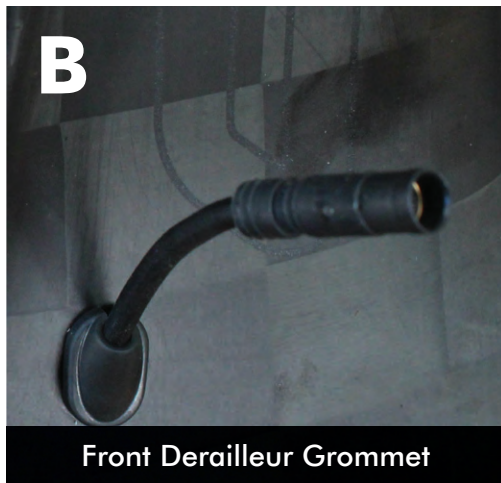
## Wire Grommets

### Step 8

- a. Press in any remaining grommets. Refer to below images for placement.
- b. If not already done, connect wires to derailleurs and Junction B.



Rear Derailleur Grommet



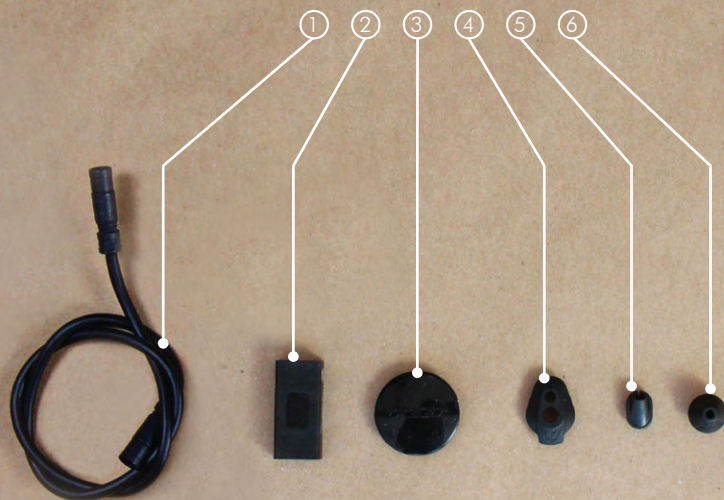
Front Derailleur Grommet



Top Tube Grommet

## Part V

### AR Electronic Wire Routing



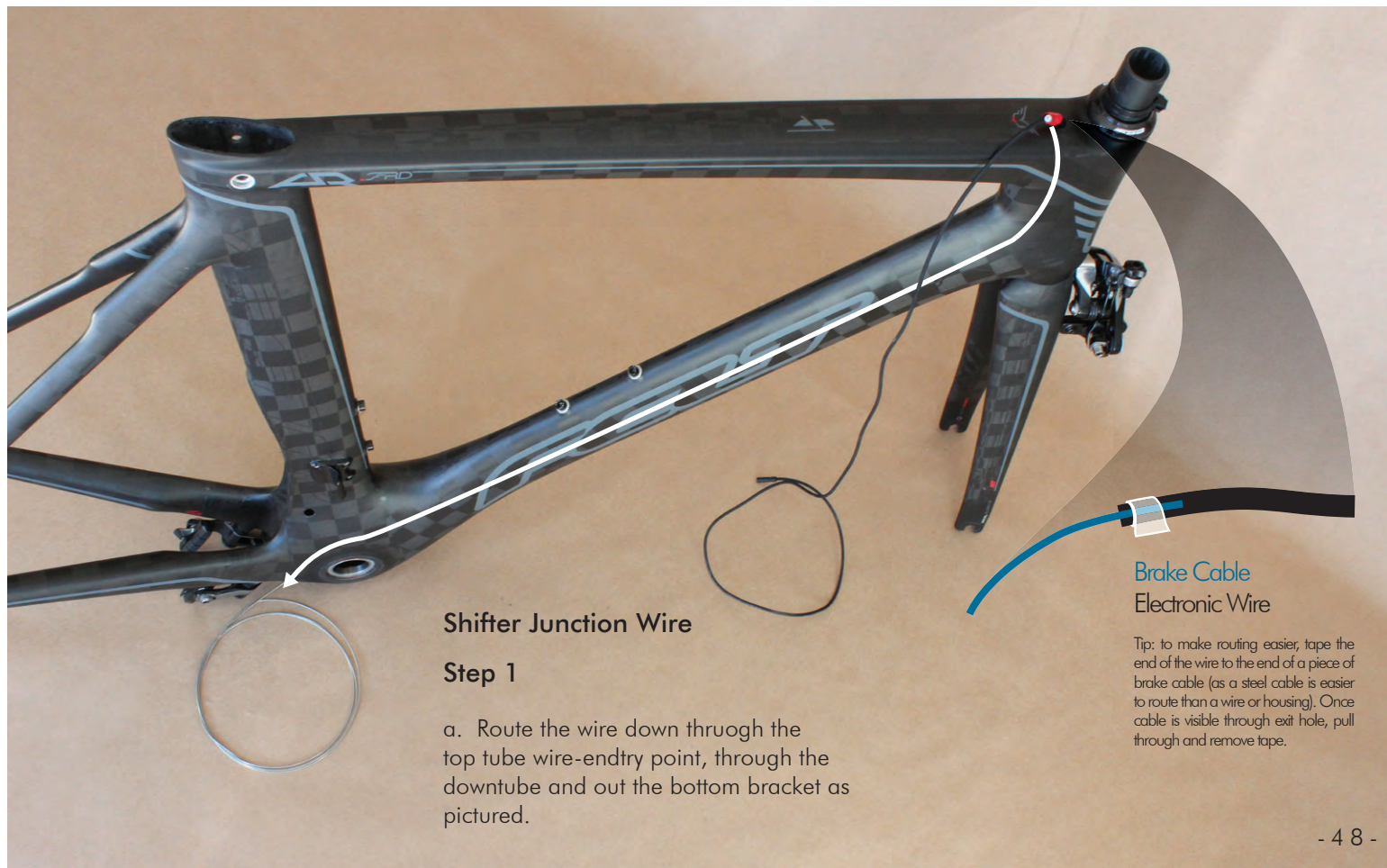
#### AR Wiring Small Parts

1. \*Di2 Wires
2. \*Di2 Junction B
3. Bottom Bracket Plug
4. Top Tube Grommet
5. Seat Tube Grommet  
(Shimano SMGM01 6mm Grommet)
6. Dropout Grommet

## AR Electronic Wire Routing Road Map

- Downtube Cable Battery to Junction
- Rear Derailleur Cable to Junction
- Front Derailleur Cable to Junction
- Downtube Cable Brain to Junction





## Shifter Junction Wire

### Step 1

a. Route the wire down through the top tube wire-entry point, through the downtube and out the bottom bracket as pictured.

## Brake Cable Electronic Wire

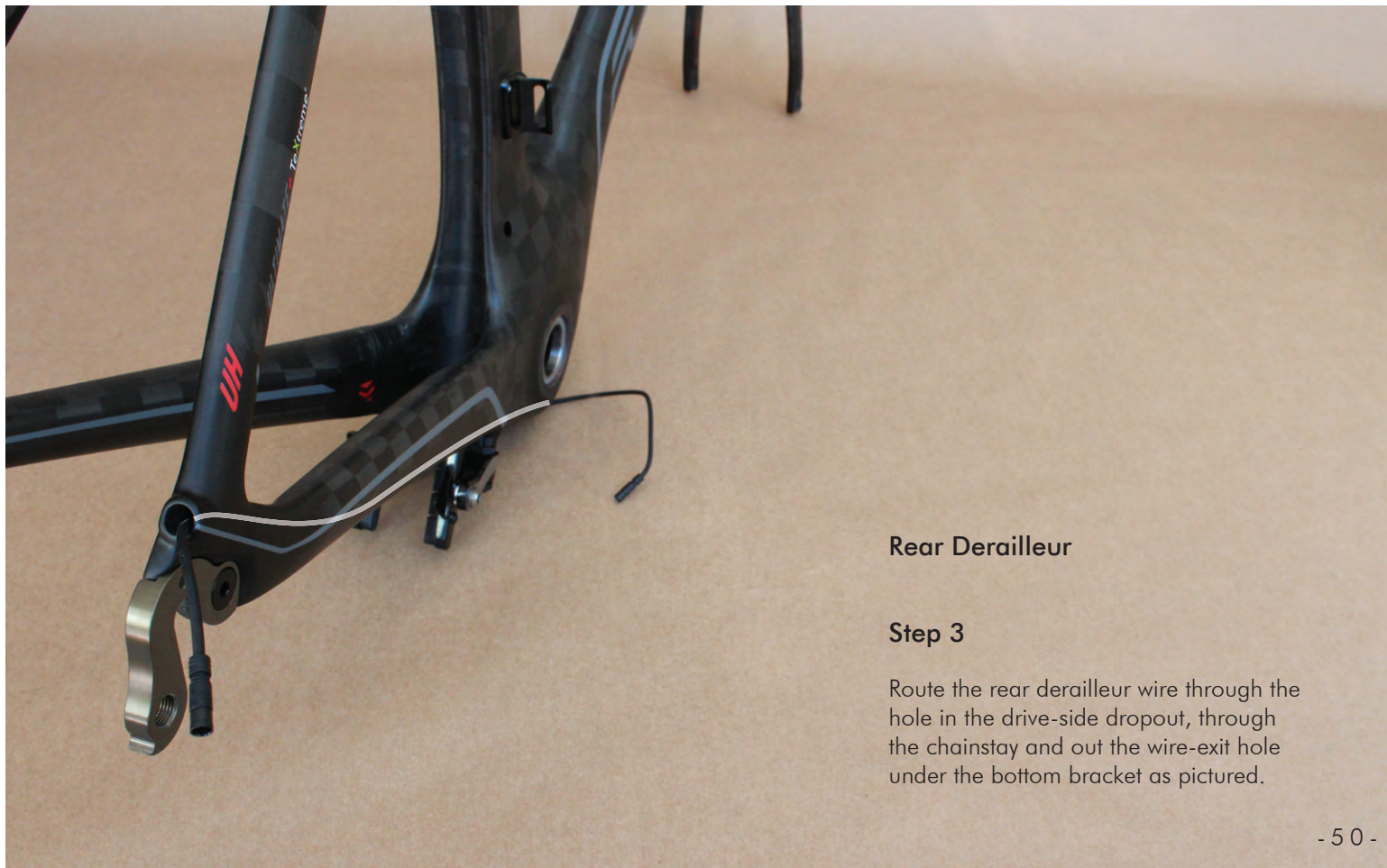
Tip: to make routing easier, tape the end of the wire to the end of a piece of brake cable (as a steel cable is easier to route than a wire or housing). Once cable is visible through exit hole, pull through and remove tape.



## Front Derailleur Wire

### Step 2

Route the wire, entering the small hole located under the front derailleur mount and out the hole under the bottom bracket as pictured. Press-fit the Front Derailleur Grommet (A) into the hole to prevent Di2 wire from falling into the frame.



## Rear Derailleur

### Step 3

Route the rear derailleur wire through the hole in the drive-side dropout, through the chainstay and out the wire-exit hole under the bottom bracket as pictured.

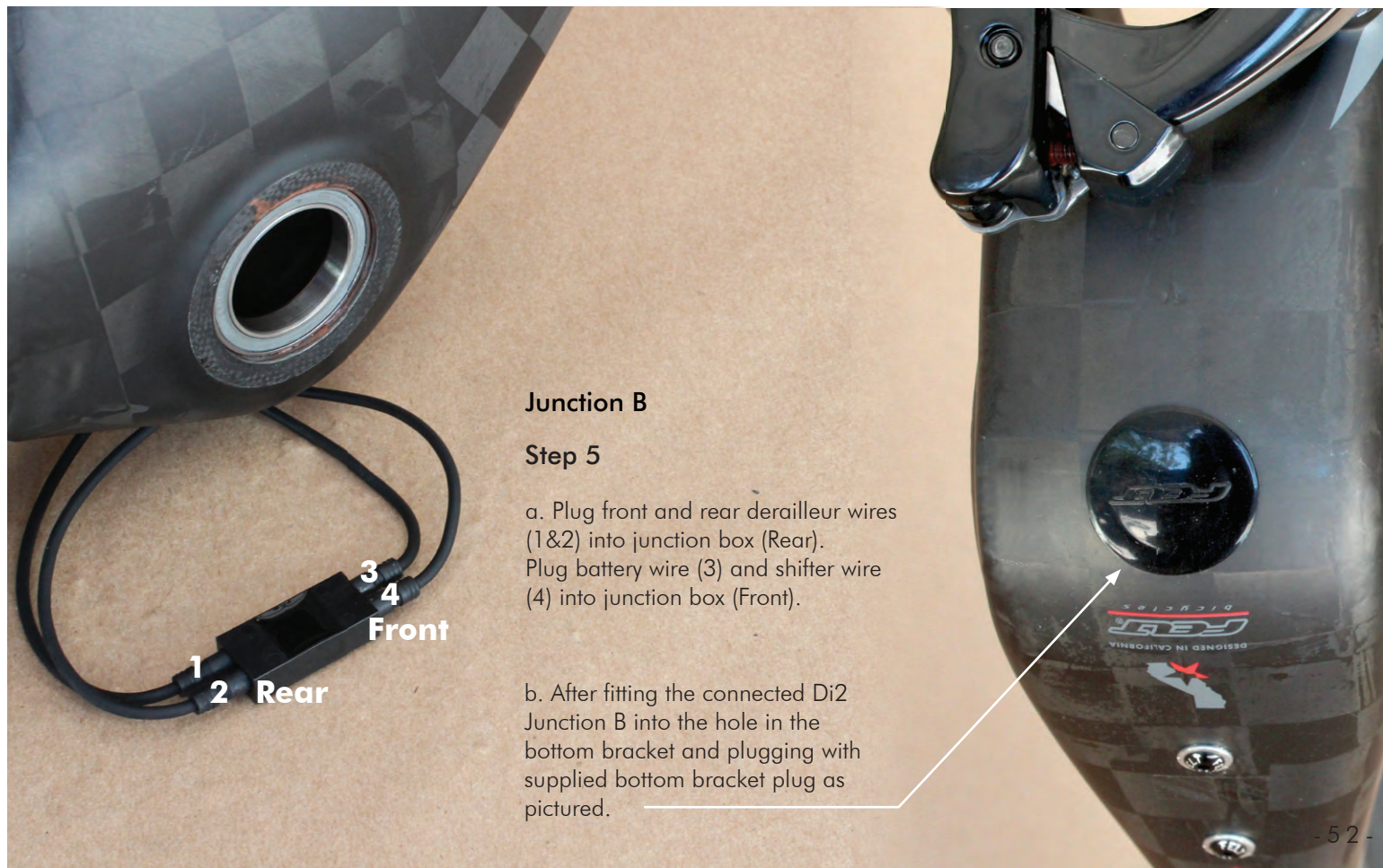
## Seat Tube Wire

### Step 4

a. If needed, remove the seatpost from the frame. Route the battery wire through the downtube and out the wire-exit hole under the bottom bracket as shown.



Note\* At this point, all electric wiring should be complete and should look as this photo does with both ends of all cables unplugged.

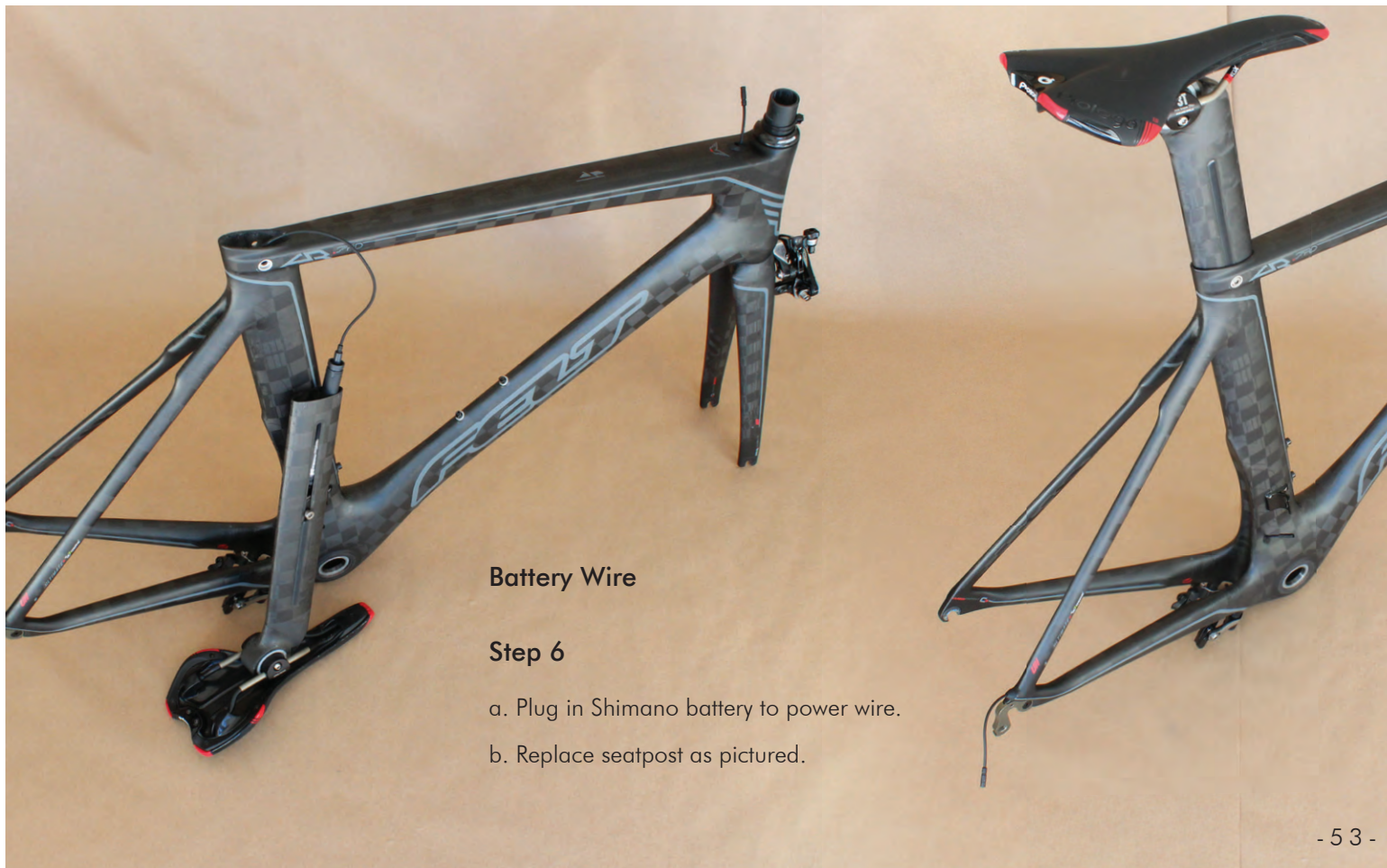


## Junction B

### Step 5

a. Plug front and rear derailleur wires (1&2) into junction box (Rear). Plug battery wire (3) and shifter wire (4) into junction box (Front).

b. After fitting the connected Di2 Junction B into the hole in the bottom bracket and plugging with supplied bottom bracket plug as pictured.



## Battery Wire

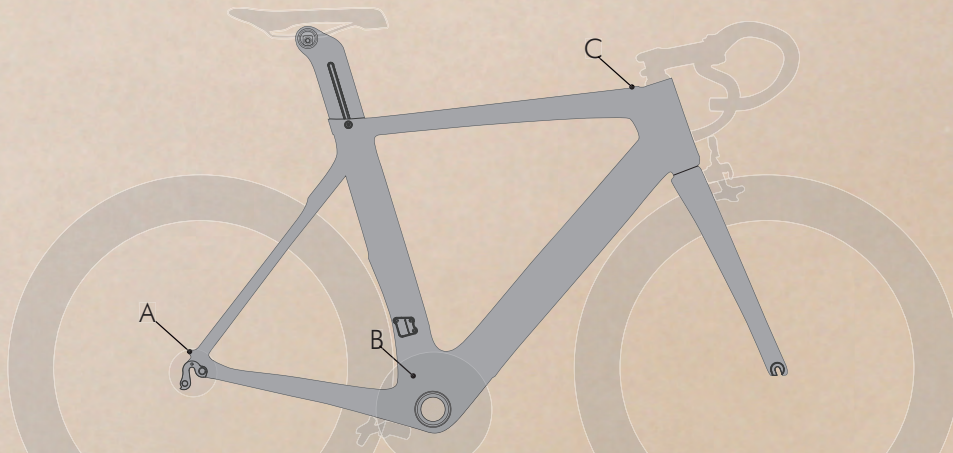
### Step 6

- Plug in Shimano battery to power wire.
- Replace seatpost as pictured.

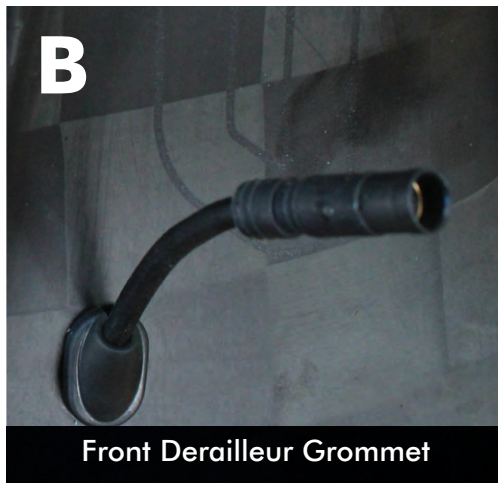
## Wire Grommets

### Step 8

- a. Press in any remaining grommets. Refer to below images for placement.
- b. If not already done, connect wires to derailleurs and Junction B.



Rear Derailleur Grommet



Front Derailleur Grommet



Top Tube Grommet

## Part VI Rear Brake Cable Routing

### Step 1

Feed the brake cable housing into the hole located on the underside of the downtube and insert cable until visible in the headtube.

Note: Routing the brake cable and housing is made easier if fork is removed when routing cable from downtube to toptube.



## Rear Brake Cable Routing

### Step 2

a. Direct the end of the brake cable that is in the headtube up and out through the hole in the top tube until desired length of cable housing is exposed.

b. If not already in place, thread the top tube cable grommet over the brake cable and press-fit into frame.





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