

ROADIO

RadRunner 3 Install SOP

This guide should take approximately 60-80 minutes to complete.

1. Gather your Roadio kit

Tools:

Allen keys (2.5mm, 3mm & 5mm)



Cutters



Fasteners:

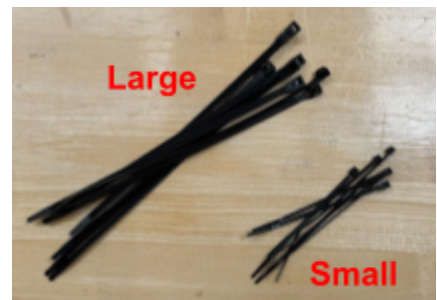
2x Button head hex bolt M5x0.8
8mm



1x Button head hex bolt M5x0.8
10mm



Zip ties



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Roadio Hardware:

Rear camera+mount+0.4m extension cable



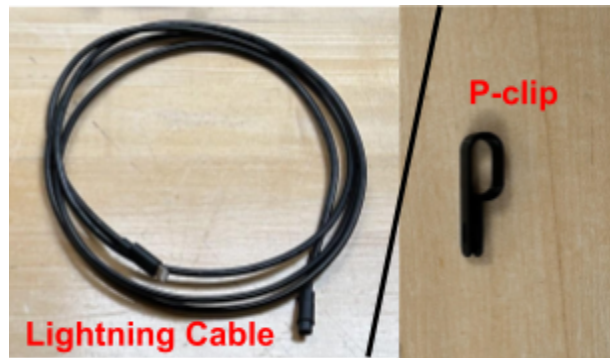
Front camera+mount+1.4m extension cable



Roadio controller+mount+PIB



Lightning USB cable (2.2m) / P-clip



- **General tip:** Before inserting the connectors into each other, make sure the arrows on the housing point at each other. This ensures that the plugs are properly keyed together when they are connected.



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2. Mount Front Camera

- This step will be performed on the front of the bike.



- Use a 5mm Allen key to unscrew the upper 2 headtube mounting bolts. Install the front camera (**above the mounting holes**) using the original bolts.
 - The cable exiting the camera should be on the **left side** when you are facing toward the front of the bike.
 - You will route the camera cable along the main tube of the frame of the bike in a later step.



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3. Mount Rear Camera

- This step will take place at the back of the bike, on the lower, rear, horizontal bar of the bike rack.
 - If you have any accessories on the rear rack of the bike, remove them now.



- Using the two button head hex drive bolts (M5x0.8 8mm) (*included in your kit*) and a 3mm Allen key, attach the rear camera mount to the rear of the bike.

Place your bolts through the available holes in the 'arms' of the rear camera mount and line those bolts up with the available holes on the lower part of the back of the rear rack, then use your Allen key to tighten the bolts.

- Note: it can be helpful to orient your Allen key 'vertically' for this step to avoid it hitting the support bars when you are tightening your bolts



Mounted rear camera. Bolt locations shown in red.



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- Picture of complete and correct rear camera with its mount installation.



4. Mount Roadio Controller + PIB

- This step will take place on the front half of the rear rack of the bike.



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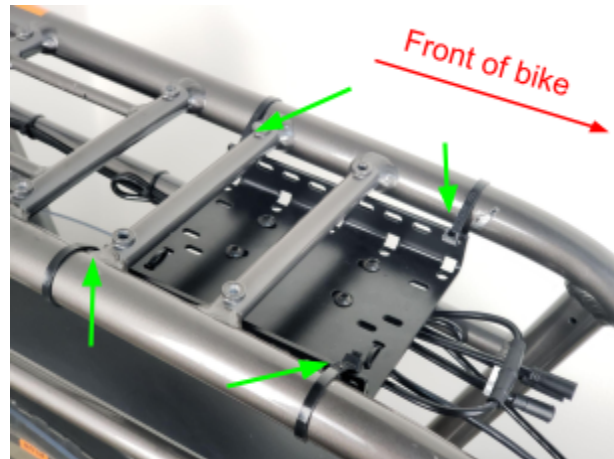
- Gather controller mount with Roadio controller and PIB attached.
 - PIB should be plugged into Roadio controller.



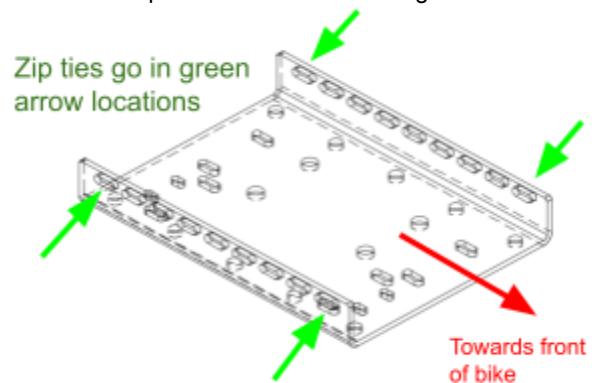
- Use four large zip ties to secure the controller mount to the rear rack just under the front-most bars of the rear rack.

The zip ties will go through the holes on the sides of the controller mount, then loop around the outside bars of the rear rack. Pull the zip ties tight so that the mount is secured against the underside of the cross railings.

- The zip ties should be threaded through the holes at the outside edge of the controller mount.
- Use your flush cutters to cut off the excess length from the tightened zip ties.



Zip ties locations shown in green.



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5. Connecting the PIB

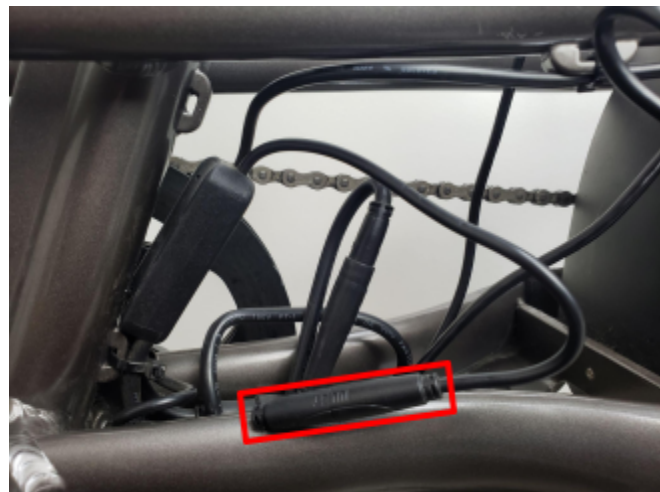
- This step will occur behind the tube in the frame that contains the seat (seat tube).



- Cut the top zip tie of the existing cable bundle near the base of the seat tube.



- Locate the dummy connector plugged into the Rad accessory port in the cable bundle. Remove the dummy plug.
 - If removing the dummy plug is difficult, rock it back and forth until it comes out. Do not twist the connector.



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- Connect the PIB cable to the accessory port.



Connectors shown not fully plugged in for demonstration.
Make sure to fully plug in all connectors.

6. Cable Routing

- Thread the rear camera cable along the lower horizontal bar on the left side of the bike when looking from the back.



- Plug the other end of the cable into the Roadio controller at green connection labeled 'Rear'.
 - Look for the alignment arrows on the housing of the connector to ensure it gets plugged in the right way



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- Use 3 small zip ties to attach the rear camera cable to the lower horizontal bar of the rear rack. Make sure the cable is on the inside part of the railing. Tighten the zip ties and use your flush cutters to cut the excess length.
 - Also make sure zip tie heads face inwards and toward the ground.



Green arrows indicate zip tie locations. Red line shows cable path.



Note cables on the inside of the frame and zip tie heads facing inside and down.

- Using your 3mm Allen key, loosen the six bolts of the cable cover under the main tube of the bike by about 3 or 4 turns.
 - **IMPORTANT:** Do NOT back the screws all the way out (it is a big hassle to get them back in)
 - If you accidentally remove one of the screws, just put it back in place with a couple of turns to hold it in.



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- In the next step, the black cable cap between the pedals will be removed.
- In the following step, the USB Lightning cable will be slipped under the cable cover along the bottom of the bike frame.



- Remove the left bolt of the black plastic cable cap with the 2.5mm Allen key.
 - The 2.5mm Allen key is the smallest one included in the box.



- Switch to the other side of the bike and rotate the pedals until you can see the other screw holding in the black plastic cable cap.
 - Remove this bolt with the 2.5mm Allen key.

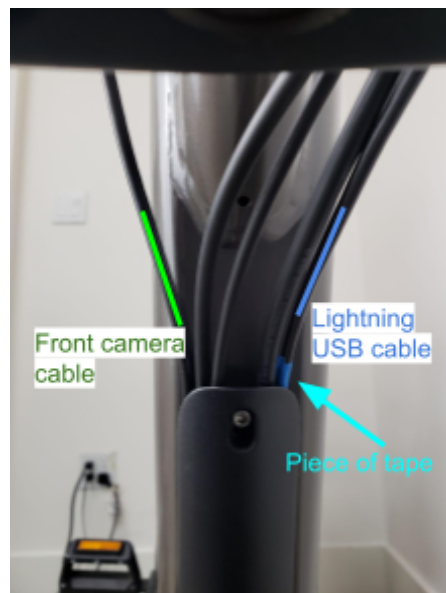


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- The Lightning USB cable has a piece of colored electrical tape about 36" inches from the end with the Lightning connector.
- In the next step, the Lightning connector should be at the front end of the bike such that it can be plugged into a Roadio app equipped phone that will be mounted to the handlebars.

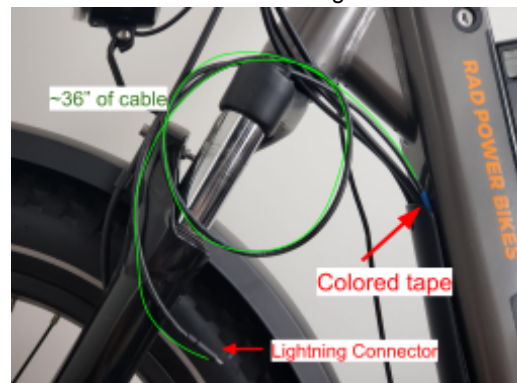


- Begin routing the Lightning USB cable down along the cable cover.
 - When looking at the top of the cable cover under the handlebars, the USB lightning cable should run along the right side.



View from front of bike facing towards back.

- Align the piece of tape at the end of the cable cover to ensure there is enough slack in the cable for it to be plugged into a phone.

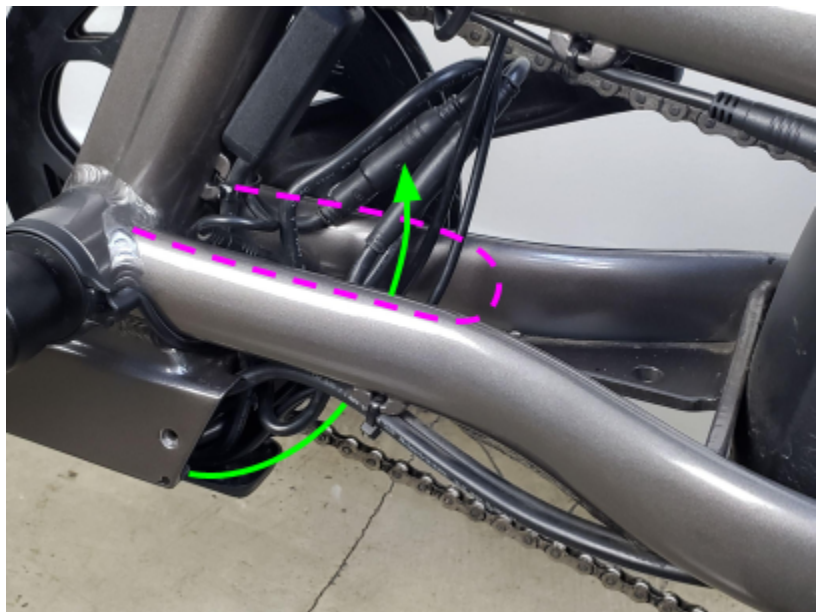


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- Route this cable along the entire length of the cable cover.
 - If the electrical tape is not at the top of the cable cover, pull on the cable from the bottom end to bring the taped portion into place.



- Feed the Lightning USB cable through the opening in the frame outlined with a dashed magenta line in the picture to the left.



- Bring the Lightning USB cable up to the Roadio controller and insert it into the black connector.



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- Use two small zip ties to bundle the Lightning connector end of the USB Lightning cable to the other cables going from the cable cover up to the handlebars.
 - Cut off the excess zip tie with the flush cutters.



- Switching to the other side of the bike, prepare to route the front camera cable. This cable will follow the same route as the Lightning USB cable but on the opposite side of the cable cover.



Switch to this side of the bike.

- Begin to route the front camera cable along the left side of the bike when looking at it from the front.
 - Leave enough slack to match the picture to the right.



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- Route the front camera cable down the entire length of the cable cover.



- Feed the front camera cable through the same frame opening as the Lightning USB cable.



- At the bottom of the cable cover, ensure that the front camera and Lightning USB cable rest atop the rails on the edges of the cable cover (highlighted in green in the left picture).



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- Re-tighten all six screws that hold the cable cover to the bottom of the bike.



- Re-attach the black cable cap at the bottom end of the main tube and replace its screws.
 - It is helpful to push and hold the cap in place while screwing to ensure that the threads are aligned to the holes in the frame.
 - Starting with the left side of the bike (*when facing toward the front*) makes this step easier.



- In the next step, three cables coming from the controller box will be constrained using the P-clip. The P-clip will be mounted onto an open screw hole at the top of the seat tube.

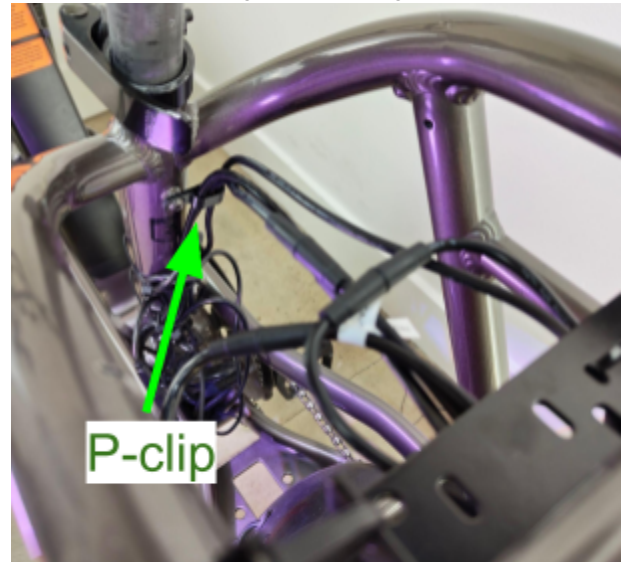


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- Combine the front camera, Lightning USB, and PIB cables. Attach your P-clip to these 3 cables to help constrain them.
- Secure the P-clip constraining the cables to the open mounting hole below the seat on the rear of the seat tube using the included M5x0.8 10mm bolt and 3mm Allen key.



Threading cables through P-clip



'P-clip' constraining cables.

- If there is any extra cable slack, bundle it using the open zip tie mounts on the back of the seat tube below the P-clip and 2 large zip ties.
- Pull the zip ties tight and clip off any excess length with the flush cutters.



Location of open zip tie mount

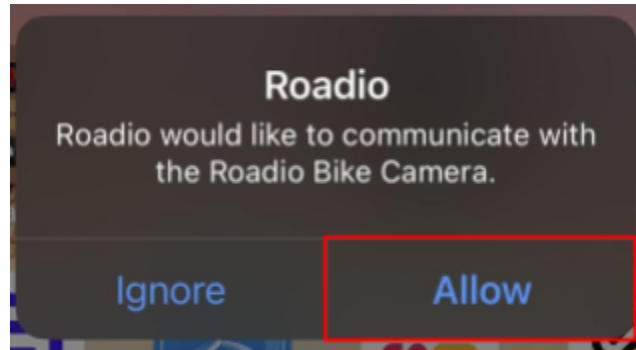


Zip ties to pull tight to secure cables.

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6. Safety checks / Miscellaneous

- Turn on the bike power, then plug in a Roadio-equipped phone to confirm that the system works.
 - Check to make sure the video feed from the rear camera is clear and not tilted.
 - Click (Allow) when given the option in the Roadio pop-up, then confirm that you are getting a live view from the rear camera.



- Using your flush cutters, make sure you have cut the excess length on all zip ties.
 - **Important:** ensure zip tie cuts are flush, zip ties can leave sharp tips that can cut riders.
- **Safety check 1:** Are all nuts and bolts securely fastened? (including any existing on the bike that could have been affected).
- **Safety check 2:** Cable control - have you securely fastened all cables added or affected? Is there extra cable length anywhere that needs to be bundled / affixed to the bike? Specific checks:
 - Make sure handlebar range of motion is not restricted.
 - Confirm that loose cables / wire routing does not have the potential of getting in the way of pedaling, or snagged in any way near the rider, and that no loose wires or anything could get into the spokes. If any cables are loose, use zip ties to secure them tighter.
 - Confirm that all cables are plugged into the correct plug on the Roadio controller. Follow the route of the cable from camera to controller for both the front and rear cameras.



- The install and safety checks are complete! You are now ready to plug your phone in and ride with Roadio!