

# ROADIO

## RadCity 5 Install SOP

### 1. Gather your Roadio kit

#### Tools:

Allen keys (3mm & 5mm)



Flush cutters



Socket wrench (8mm)



#### Roadio Hardware:

Rear camera+mount+0.4m extension cable



Front camera+mount+1.8m extension cable



Roadio controller+mount+PIB



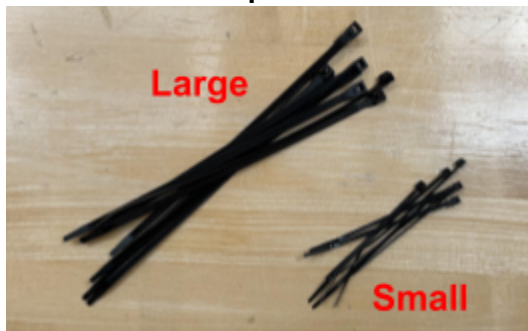
Lightning USB cable (2.2m)



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## Fasteners:

Zip ties



2x Lock nuts (M5x0.8) (spare)



- **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.



## 2. Mount Front Camera

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- Use a 5mm Allen key to unscrew the upper 2 head mounting bolts. Install the front camera (**above the mounting holes**) using the original hardware and tighten the bolts.
  - a. Camera cable should be on the left side when you are facing the camera.



## 3. Mount Rear Camera

- This step will be performed at the rear of the bike.



- Unplug the tail light cable, then remove the tail light from the bike.



Tail light connector to unplug.

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- Using the included socket wrench, loosen and remove the nuts holding the bolts for the tail light.
  - a. Place nuts to the side for now.



- Thread the tail light cable through the mount of the rear camera as shown in the picture on the right.



Tail light cable route through rear camera mount



Rear mount + tail light before attaching to bike.



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- Attach the camera + tail light assembly to the bike at the original tail light mounting location.
- Replace the 2 nuts you removed earlier and use your fingers to tighten them slightly and use the included wrench to tighten the nuts all the way down.
- Reconnect the blue tail light connector.



Rear camera+tail light mounted on bike with nuts re-attached.

## 4. Mount Roadio Controller + PIB

- Gather your controller mount with Roadio controller and PIB attached.
- The PIB should be plugged into the Roadio controller.
  - a. Ensure that the cable for the PIB runs between the two Roadio controller and the PIB 'box'.



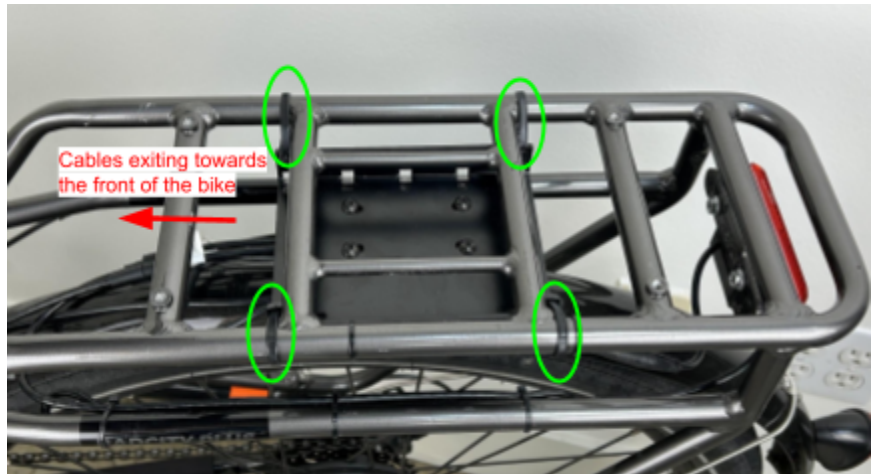
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- Use 4 large zip ties to secure the controller mount to the underside of the middle bars of the rear rack with the cable exit from the Roadio controller facing toward the **front** of the bike.

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.

- a. The zip ties should be threaded through the holes at the outermost edge of the mount.

- Use your flush cutters to cut off the excess length from the zip ties.



Controller mount location, with zip ties marked with green. Note cable exit coming out of the front of the mount.



Zip tie locations going through outermost holes in controller mount.

## 5. Cable Routing

- This next step will take place on the lower bar of the rear bike rack.



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- Take the rear camera extension cable and route it directly along the lower horizontal railing of the rear rack on the left side of the bike.
- Plug the other end of the cable into the Roadio controller at the appropriate connection (green connection labeled 'Rear'). Make sure no color is showing when the connector is fully plugged in.



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

- Use three small zip ties to secure the cable to the lower horizontal rail of the rack along this routing path.

Use your flush cutters to cut off the excess length from the zip ties.



Rear camera cable plugging into appropriate connection on Roadio controller.

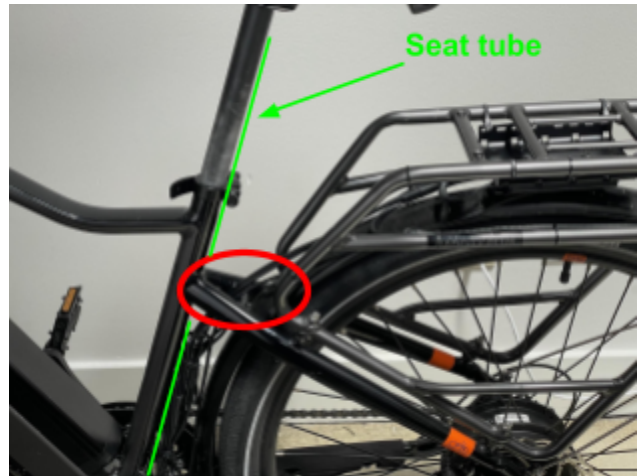
- Rotate the zip ties to ensure the zip tie heads are facing towards the inside of the bike and towards the ground.





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- Find your PIB cable exiting forward from the controller mount. Continue to route the PIB cable forward toward the seat tube.
- Once you reach this area, route the PIB cable down through the triangular gap in the frame behind the seat tube (between the seat stays and the fender).
- Cut and remove the two zip ties holding the original Rad cable bundle in place on the back of the seat tube.



Gap in frame behind seat tube. PIB cable goes through here.



Zip ties to be cut on back of seat tube.

- Unplug the dummy plug from the round Julet 7-pin connector and plug the PIB into this connector.





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Dummy plug to be removed from Julet 7-pin connector.

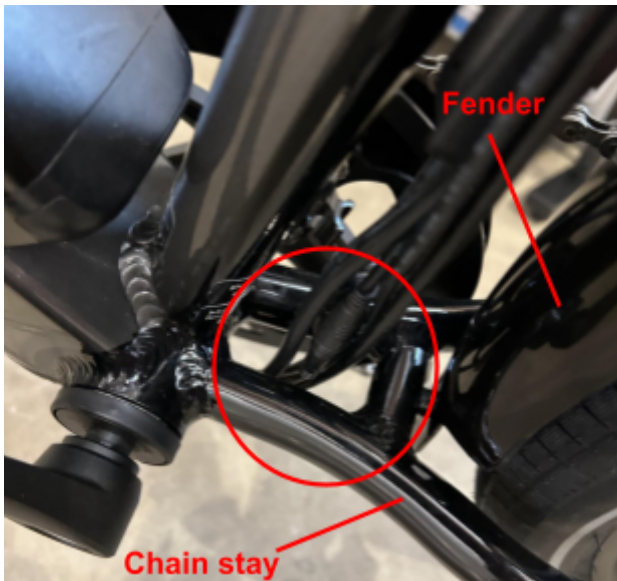
- Unplug the front camera extension cable from the front camera, then plug the other end of the front camera extension cable into the Roadio controller (green connection labeled 'Front').
- Plug the lightning cable into the Roadio controller (black connection port).
- Gather the front camera extension cable and Lightning cable coming out of Roadio controller and route them straight forward to join the PIB cable going through the same gap in the frame behind the seat tube.



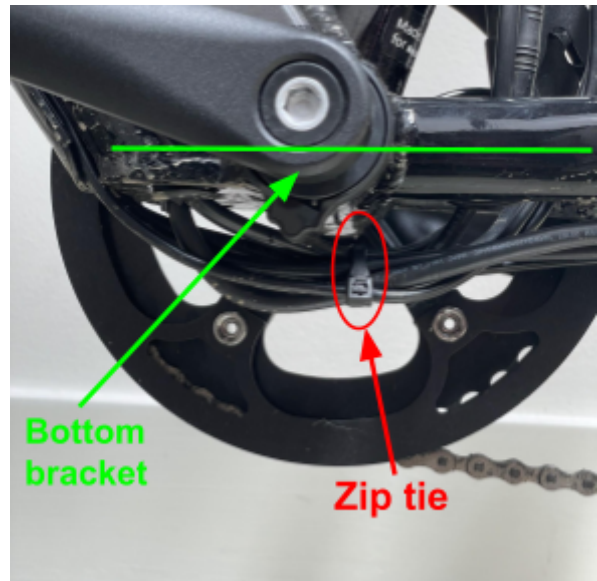
PIB, Lightning, and front camera extension cables entering the gap behind the seat tube.

- Next, route the Lightning and front camera extension cables down through triangular gap at the bottom of the bike between the chain stays and the fender.
- Continue routing the cables under the bottom bracket (*bottom of bike, between the cranks*) towards the downtube.
- Use a small zip tie to secure the Roadio cables to the existing Rad cables underneath the bottom bracket. Use your flush cutters to cut off the excess zip tie length.

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Lower gap through which to route cables.



Cables routing under seat tube & cranks to reach cable cover.

- Using a 2.5mm Allen key, partially loosen the bolts securing the cable cover to the downtube.
  - a. **IMPORTANT:** Loosen these bolts *just* enough to fit a cable through the side gap (between the cable cover and the downtube). **DO NOT** loosen them enough to remove the cable cover. It is very difficult to put the cable cover back on if you take it all the way off.

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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- Fit your Lightning cable through this gap on the left side of the cable cover (when facing the front of the bike).
- Fit the front camera extension cable through the gap on the right side of the cable cover.
- **Do not tighten the bolts back yet.**



Cable fitting through the side gap of the cable cover.

- If you do not already have a phone mount on your handlebars, attach one and ensure the screen is clearly visible from the riding position.
- From the top of the downtube cable cover, route the Lightning cable with existing Rad cables. Secure the Lightning cable to the existing Rad cables with two small zip ties.
  - a. The second zip tie you add should be as high as possible to minimize cable dangle when not plugged in, while still allowing the Lightning cable to reach the phone mount/phone to plug in.
- Use your flush cutters to cut off the excess zip tie length.



Zip tie locations shown in red.

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- Plug the front camera extension cable into the front camera. Ensure that there is minimal slack between the end of the downtube cable cover and the front camera.
  - a. If necessary, pull any extra slack out on the other side of the cable cover (i.e. back at the bottom bracket area near where you plugged in the PIB).



Appropriate amount of slack in front camera cable.

- Returning to the bottom bracket area, gather the Lightning and front camera cables together with the PIB cable. Use 2 large zip ties to secure these cables to the existing Rad cable bundle at the 2 existing Rad zip tie bosses on the back of the seat tube.
  - a. If there is any extra cable length in this area, combine it with your cable bundle.
- Use your flush cutters to cut off the excess zip tie length.



Bottom bracket area - control cables here.



Location of existing zip tie receptors in bottom bracket area used to attach Radio cables to Rad cable bundle.



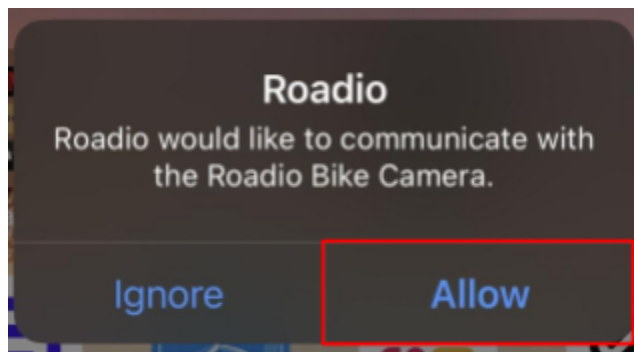
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- Once you have secured the cables return to the downtube cable cover, use your 2.5mm Allen key to tighten the bolts securing the cable cover all the way down.



## 6. Safety checks / Miscellaneous

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



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- Using your flush cutters, make sure you have cut the excess length on all zip ties.
  - a. **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:
  - a. Make sure handlebar range of motion is not restricted.
  - b. 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.
  - c. 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!

