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Sincerely,

The Madone Development Team
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>1. Installing housings in the handlebar</td>
<td>3</td>
</tr>
<tr>
<td>Installing the front derailleur housing</td>
<td>3</td>
</tr>
<tr>
<td>Installing the rear derailleur housing</td>
<td>5</td>
</tr>
<tr>
<td>Installing the front brake housing</td>
<td>5</td>
</tr>
<tr>
<td>Installing the rear brake housing</td>
<td>6</td>
</tr>
<tr>
<td>Installing the front brake guide cable</td>
<td>6</td>
</tr>
<tr>
<td>2. Installing levers on the handlebar</td>
<td>7</td>
</tr>
<tr>
<td>Installing the levers and cables</td>
<td>7</td>
</tr>
<tr>
<td>Installing the rear brake housing</td>
<td>8</td>
</tr>
<tr>
<td>3. Installing the fork and the handlebar</td>
<td>9</td>
</tr>
<tr>
<td>Guiding the housings to the cutouts</td>
<td>9</td>
</tr>
<tr>
<td>Installing the fork</td>
<td>10</td>
</tr>
<tr>
<td>Cutting the fork</td>
<td>10</td>
</tr>
<tr>
<td>4. Installing the front brake</td>
<td>13</td>
</tr>
<tr>
<td>Installing the front brake cable/front brake arms</td>
<td>13</td>
</tr>
<tr>
<td>Adjusting the front brake</td>
<td>14</td>
</tr>
<tr>
<td>Installing the vector wings and brake cover</td>
<td>15</td>
</tr>
<tr>
<td>5. Installing the rear brake</td>
<td>16</td>
</tr>
<tr>
<td>6. Installing the Control Center (mechanical)</td>
<td>17</td>
</tr>
<tr>
<td>7. Installing Di2 wires in the handlebar</td>
<td>20</td>
</tr>
<tr>
<td>Installing the front derailleur Di2 wire</td>
<td>20</td>
</tr>
<tr>
<td>Installing the rear derailleur Di2 wire</td>
<td>21</td>
</tr>
<tr>
<td>8. Installing the Control Center (Di2)</td>
<td>22</td>
</tr>
<tr>
<td>Installing the Di2 junction box</td>
<td>22</td>
</tr>
<tr>
<td>Charging the battery</td>
<td>23</td>
</tr>
<tr>
<td>Trimming the derailleurs</td>
<td>23</td>
</tr>
<tr>
<td>9. Installing the chain keeper</td>
<td>24</td>
</tr>
<tr>
<td>10. Installing and adjusting the seatpost</td>
<td>25</td>
</tr>
<tr>
<td>11. Making basic fit adjustments</td>
<td>26</td>
</tr>
<tr>
<td>Raising handlebar height</td>
<td>26</td>
</tr>
<tr>
<td>Lowering handlebar height</td>
<td>26</td>
</tr>
<tr>
<td>12. Attaching the light or reflector</td>
<td>27</td>
</tr>
<tr>
<td>Attaching the rear bracket and light or reflector</td>
<td>27</td>
</tr>
<tr>
<td>Attaching the front mount</td>
<td>27</td>
</tr>
<tr>
<td>13. Traveling with your Madone</td>
<td>28</td>
</tr>
<tr>
<td>Removing the handlebar</td>
<td>28</td>
</tr>
<tr>
<td>Attaching the handlebar to frame</td>
<td>28</td>
</tr>
<tr>
<td>14. Fit measurements</td>
<td>29</td>
</tr>
<tr>
<td>15. Service Information</td>
<td>30</td>
</tr>
<tr>
<td>Madone 9 Series seat tube water bottle screws</td>
<td>30</td>
</tr>
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Congratulations.

If you’re reading this assembly manual, odds are you’re about to lay hands on the most advanced road bicycle Trek has ever made.

The all-new Madone represents a complete redefinition of the road bike ideal. Unburdened by convention, Trek engineers chased a new vision—a bike that would not only set a new standard in aerodynamic design, but would ride like no other aero race bike.

The result: an exquisite race machine with unparalleled aerodynamics, unmatched ride quality, and unprecedented integration.

We didn’t just build a new aero road bike. We built the ultimate race bike.
1. **INSTALLING HOUSINGS IN THE HANDLEBAR**

The 2016 Madone has a completely new handlebar with internal cabling.

### Installing the front derailleur housing in the handlebar

**TOOLS AND MATERIALS REQUIRED**

- Installation cable (1) with shift head
- Handlebar
- Derailleur housings (2)
- Brake housings (2)
- Hook tool

1. Prepare the housing. Cut it to length and finish the ends (but do not install end caps).

#### NOTES

- One installation cable can be reused to install all the housings.
- The length for each housing, by frame size, is shown in the table at right.

2. Pass the installation cable completely through the housing.

Refer to precut/pre-installed housing lengths in table below according to frame size.

### Mechanical build housing lengths for 2016 madone

**Total cable length recommendations**

<table>
<thead>
<tr>
<th>Frame size</th>
<th>H1 Front brake</th>
<th>Front derailleur</th>
<th>Rear brake</th>
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**H2**

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<td>62</td>
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<td>745</td>
<td>1165</td>
<td>790</td>
</tr>
</tbody>
</table>

*Lengths as shipped include 80mm of excess housing to allow for trimming to optional length based on bike setup.

#### NOTE

These lengths are subject to further trimming for proper installation.
3. On the bottom of the stem, identify the correct hole for the front derailleur (FD).

Installation sequence of the four housings.

4. Push the installation cable through the bottom of the stem toward the lever exit hole.

TIP
You may have to use a HOOK to pull the cable out.

5. When the cable exits the lever exit hole, use the cable to pull the housing through the bar until 60mm of housing protrudes from the handlebar. You can help ease the housing through by wiggling it a bit.
6. Remove the installation cable from the housing.

Installing the rear derailleur housing in the handlebar

1. Repeat the same steps as performed for front derailleur, but use the hole marked RDC.

NOTE

The rear brake housing must be behind the rear derailleur housing as the housings exit the shared stem hole. (See tip below.)

TIP

You can make sure the rear brake housing is in its proper position behind the shift housing by passing the brake housing through the hole on the outside of the handlebar and then bending it back into the inner hole. The cable may bend sharply during this process—just be careful to avoid a permanent kink.

Installing the rear brake housing in the handlebar

1. Repeat the same steps as performed for front derailleur, but use the hole marked RBC.

NOTE

As the brake housing exits the lever hole, it should always be on top of the derailleur housing.
Installing the front brake housing in the handlebar

1. Repeat the same steps as performed for the front derailleur, but use the hole marked FBC.

   ![Diagram of front brake housing installation]

   **NOTE**
   Handlebar should now have FOUR HOUSINGS.

Installing the rear brake guide cable

**TOOLS AND MATERIALS REQUIRED**

- Spare cable (1)
- Tape
- Frame

**TIP**
This step is easier if the frame is turned upside down.

1. Pass an installation cable through the hole in the rear of the seat tube (rear brake housing stop hole), the holes in the inner seat mast, and the top tube. The cable should exit the cutout in the head tube, to the rear of the upper headset bearing.

   ![Diagram of rear brake cable installation]

2. Lightly tape this cable in place while other guide cables are installed.
2 INSTALLING LEVERS ON THE HANDLEBAR

Installing the levers and cables

TOOLS AND MATERIALS REQUIRED
- Brake cables (2)
- Derailleurs (2)
- Levers (2)
- Handlebar (with housings installed)

1. Slide the levers onto the handlebar, but stop before they contact the housings. Do not tighten the clamp bolts yet.

2. Install the front derailleur cable and front brake cable into the left lever. Fully seat the cable heads.

NOTE
Do not cut the housing. 60mm should protrude from the lever holes in the handlebar. This is to aid in installing the housing into the shifter. You will push the housing back through the frame to get it to the proper length.

3. Place end caps onto the lever end of the derailleur housings.

NOTE
Ensure that the brake housing is on top of the derailleur housing and not twisted.

4. Pass all the cables into the housings.

5. Place the housings into the proper housing stops on the levers.

6. Slide the levers to the preferred position. If the housings do not pass freely through the stem, lightly pull on the housing where it comes out of the stem.

7. Tighten the lever clamps. At this point, the levers are positioned on the handlebar, the housings extend out of the stem, and the housings have cables in them.
Installing the rear brake housing

TOOLS AND MATERIALS REQUIRED

- Frame
- Electrical tape
- Foam sleeve
- Handlebar (with levers installed)
- Non-drive side bearing top cap

1. Pass the rear brake housing through the non-drive side of the top cap.

2. To minimize rattle of the housing in the top tube, pass the housing through the foam sleeve until the front edge of the sleeve nearest the handlebar is 60mm from where the housing exits the bottom of the stem. Secure the foam with tape.

3. Pull the rear brake cable halfway out of the lever.

4. Slide the rear brake housing onto the installation cable coming out of the head tube, until the two cables meet.

5. Push the housing through the top tube until it pushes the installation cable out the hole in the rear of the seat tube.
3 INSTALLING THE FORK AND HANDLEBAR

TOOLS AND MATERIALS REQUIRED

- Frame
- Tape
- Fork
- Compression Ring
- Upper headset bearing
- Lower headset bearing
- Handlebar (with levers installed)
- Non-drive side bearing top cap
- Drive side bearing top cap
- Shaped spacers
- Expander

Guiding the housings to the cutouts

NOTE
Support the handlebar on the workbench while you install the housings in the frame.

1. Apply tape to the end of the derailleur housings, and write on the tape to indicate front and rear.

2. Install the derailleur housings and front brake housing through the compression ring, then through the upper headset bearing. Slide the compression ring and upper bearing toward the stem.

3. Pass the derailleur housings through the down tube cutout. Do not cross the cables.

4. Pass the front brake housing through the head tube cutout.

5. Install the lower headset bearing on the fork.

IMPORTANT
The middle notch in the compression ring points towards the front of the bike.
Installing the fork

1. While you guide the housings to the correct sides of the steerer (see Steerer diagram), pass the fork through the head tube, upper bearing, compression ring, spacers, and the stem.

IF YOU DO NOT NEED TO CUT THE FORK, GO TO STEP 3.

Cutting the fork (Steps 2.1–2.4)

It is necessary to install the fork, heat set assembly and stem together in order to get the correct location for cutting the steerer.

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

2.2 Determine the preferred cut length. Use additional spacers above the stem until you are certain about the desired stack height (handlebar height). Mark a fine line on the flat side of the steerer along the top edge of the stem.

2.3 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 Step 2.2. If you are planning on using a 5mm headset spacer above the stem, cut on the line.

2.4 Proceed with cutting the steerer at the selected location from step 2.3 using a standard carbon steerer cutting process.

IMPORTANT

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

Sides of steerer and cable locations

<table>
<thead>
<tr>
<th>Non-drive side</th>
<th>Drive side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear brake</td>
<td>Front derailleur</td>
</tr>
<tr>
<td>Rear derailleur</td>
<td></td>
</tr>
</tbody>
</table>

IMPORTANT

The front brake housing sits in the groove at the front of the steerer.
3. Slide the upper bearing into the head tube, then slide the compression ring into place.

**TIP**

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

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

4. Install the bearing top cap and preferred number of shaped spacers (matching up the detents in the cap and spacers to the stem).
5. Align the top caps and shaped spacers as you slide the stem down. As you lower the stem onto the frame, the foam sleeve and rear brake cable should slide into the top tube.

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

7. Install the stem top cap and preload the headset bearings with a max torque of 4Nm.

8. Align the stem and tighten the stem pinch bolts.

If needed, install additional standard round spacers above the stem.
4 Installing the Front Brake

Installing the front brake cable and front brake arms

TOOLS AND MATERIALS REQUIRED

- Housing stop
- M6 countersunk bolt for housing stop
- Ferrule with integrated liner
- FR brake wedge
- Front brake cover (with 2 M3 bolts)
- Vector wing assembly (with M4 bolt)
- Torx T10 for wedge set screws
- 9mm wrench
- Cable cutter
- Pliers
- 25mm clear plastic sleeve
- Housing stop
- M6 countersunk bolt for housing stop
- Ferrule with integrated liner
- FR brake wedge
- Front brake cover (with 2 M3 bolts)
- Vector wing assembly (with M4 bolt)

1. Pull the front brake cable out of the lever enough that you can cut the other end of the housing without cutting the cable.

2. Align the end of the front brake housing with the lower end of the head tube, and mark the housing.

3. Cut the housing at the mark you made in Step 2. Finish the end of the housing so that there are no sharp ends that could rub the brake cable.

4. Install clear plastic sleeve over the brake cable housing, then an end cap with integrated liner.

5. Reinstall the brake cable, and fully seat the cable end.

6. Install the brake housing (with lined end cap) into the housing stop, then push the housing stop into position.

7. To align the stop, insert the positioning post into the fork.
8. Install and tighten the M6 countersunk bolt.

9. Install the front brake arms and tighten.

Adjusting the front brake

1. Slide the brake wedge onto the cable.
   Note: The wedges are labeled for their locations: FB (front brake) and RB (rear brake).

2. Install the brake wedge in the rollers of the brake arms. Make sure the wedge is aligned properly, behind the small black washers.

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 brake arms and slide it up the cable. Cut the brake cable at the bottom line.
5. Slide the wedge down to align the bottom of the pre-load slot with the top line. While you hold the wedge flat with a 9mm wrench, tighten the cable clamp screws with a T10 Torx wrench.

6. Reinstall the wedge between the brake arm rollers. (See Step 2.)

7. Install the front wheel.

8. 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.

9. Loosen the pad carrier bolts, lightly engage the brake, and position the pads on the rim. Tighten the pad carrier bolts.

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

11. Use the pad width spacing bolts symmetrically to adjust the spacing between the pads and rim. 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.

12. Symmetrically adjust the centering bolts to adjust lever feel.

13. Use the appropriate centering bolt to make final centering adjustment (ex: tightening the drive side centering bolt will pull the drive side pad away from the rim).

Installing the vector wings and brake cover

1. Remove the front wheel.

2. Carefully slide the vector wings on either side of the head tube, then tighten the bolt to max 2Nm.

NOTE
Holding the sides of the vector wings flush with the recess on the frame while you tighten the bolt can improve alignment.

3. Install the front brake cover with the M3 bolts. Make sure the brake cable does not interfere with the brake cover.
5 INSTALLING THE REAR BRAKE

TOOLS AND MATERIALS REQUIRED

- M46 countersunk bolt for housing stop
- Ferrule with integrated liner
- RB brake wedge
- Rear brake cover (with 2 M3 bolts)
- Torx T10 for wedge set screws
- 9mm wrench
- Cable cutter
- Pliers

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

2. 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.

3. Finish the end of the housing. Make sure there are no sharp ends to rub the brake cable.

4. Install the end cap with integrated liner.

5. Fully seat the brake cable head in the lever.

6. Pass the brake cable and lined end cap into the rear brake housing stop.

7. 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 frame.

8. Install the M4 countersunk bolt.

9. Install the spring shoulder bolt, then proceed with the same assembly steps used in the setup of the front brake, including wedge installation and brake adjustment.
6 INSTALLING THE CONTROL CENTER (MECHANICAL)

TOOLS AND MATERIALS REQUIRED

- Mechanical Control Center
- Front derailleur rubber grommet
- Cable cutter
- Clear tubing
- Black grommet

1. Pull the derailleur cables slightly out of the levers.

2. With the handlebar straight, measure and mark 35mm of front derailleur housing as it protrudes from the top of the down tube cutout as shown.

3. Cut the front derailleur housing at the line.

   **NOTE**
   Protect frame when cutting housing.

4. With the handlebar straight, align the rear derailleur housing with the rear of the down tube cutout. Align your mark on the housing with the rear edge of the hole.

5. Cut the rear derailleur housing at the line.

6. Fully seat the derailleur cable heads in the levers.

7. Install the end caps on each housing.
8. Pass the front derailleur cable through the threaded bolt in the junction box, and fully seat the housing end in the end of the barrel adjuster bolt.

9. Pass the rear derailleur cable through the bottom hole in the junction box and fully seat the housing end in the housing stop.

10. Pass the cables through the bottom bracket. Do not cross the cables.

11. Place tape on the end of each cable, and mark them front or rear.

12. Use tape to hold the bottom bracket cable guide in place while you slide the cables from the bottom bracket to the corresponding derailleurs.

13. Slide the tube over the cable and through the frame until it contacts the plastic bottom bracket cable guide. Install the black grommet over the top end of the guide tube.
14. Install the junction box and the cover, then tighten the attachment bolts.

15. Rotate the adjustment knob toward the non-drive side, threading the adjustment bolt in until it stops turning.

**NOTE**

To fine-tune the front derailleur by moving the derailleur outward, rotate the adjustment knob toward the drive side.
7 INSTALLING THE Di2 WIRES IN THE HANDLEBAR

TOOLS AND MATERIALS REQUIRED
- Installation cable (1)
- Brake housings (2)
- Handlebar
- Di2 wires (2)
- Hook tool

Installing the front derailleur
Di2 wire in the handlebar

1. Prepare the housing. Cut it to length and finish the ends, but do not install end caps. (For brake housing installation, see Section 1: Installing housings in the handlebar.)

NOTES
One installation cable can be reused to install all the wires and cables.

2. Tape the installation cable to the Di2 wire.

3. On the bottom of the stem, identify the correct hole for the front derailleur (FD).

2016 Madone: internal cable routing
Electronic build housing and wire lengths

<table>
<thead>
<tr>
<th>Frame size</th>
<th>Recommended cable housing and wire length in mm (as shipped*)</th>
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<td>H1</td>
<td>Front brake</td>
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<td>60</td>
<td>655</td>
</tr>
<tr>
<td>62</td>
<td>680</td>
</tr>
</tbody>
</table>

| H2         | Di2 Front brake | Rear brake | Di2 front derailleur | Rear derailleur | Di2 shifter (F&R) |
| 50         | 605        | 1060       | 750                  | 1000               | 650              |
| 52         | 615        | 1085       | 750                  | 1000               | 600              |
| 54         | 630        | 1095       | 850                  | 1200               | 650              |
| 56         | 645        | 1120       | 850                  | 1200               | 650              |
| 58         | 670        | 1130       | 850                  | 1200               | 650              |
| 60         | 655        | 1140       | 850                  | 1200               | 700              |
| 62         | 705        | 1155       | 850                  | 1200               | 750              |

*Lengths as shipped include 80mm of excess housing to allow for trimming to optional length based on bike setup.

Electronic build groupsets

<table>
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<th>Di2 cable sets</th>
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<td>Large</td>
<td>58H1, 60H1, 58H2, 60H2</td>
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<tr>
<td>Extra Large</td>
<td>62H1, 62H2</td>
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Installation sequence of the 2 wires. For brakes, see mechanical build.
4. Push the installation cable through the bottom of the stem toward the lever exit hole.

   **TIP**
   You may have to use a hook to pull the wire out.

5. When the installation cable exits the lever exit hole, use the cable to pull the Di2 wire through the bar until 60mm of wire protrudes from the handlebar. You can help ease it through by wiggling it a bit.

---

**Installing the rear derailleur Di2 wire in the handlebar**

1. Repeat the same steps as performed for front derailleur, but use the hole marked RDC.

2. For installation of brake housings, see the instructions for the mechanical build.
Installing the Di2 junction box

Before you start, there should be four wires hanging out of the downtube window.

1. With the wires of the battery pointed down (toward the bottom bracket), wrap the two zip ties around the battery. Tighten and trim the zip ties.

2. Pass five cables through the front hole of the outer cage. (1 battery cable, 2 shifter cables, 2 derailleur cables.)

3. As you insert the rear of the junction box cover into the downtube window, push any excess wire into the frame.

4. Place the Di2 junction box into the inner sleeve of the carrier.
5. Connect all the wires to the junction box. Note that any wire can be connected to any connector.

6. With the two screws, attach the outer cage to the frame.

7. Close the Control Center lid. Push the lid down until it clicks into place.

---

**Trimming the derailleurs**

1. Hold the trim button down. You do not need to open the junction box.

---

**Charging the battery**

1. To open the holder, push the back lever rearward (down). This will expose the charging port of the Di2 junction box. You do not need to remove the junction box from the carrier or remove the carrier from the outer cage.
9 INSTALLING THE CHAIN KEEPER

TOOLS AND MATERIALS REQUIRED

• Hex bolt
• Chain keeper
• Chain keeper washer

1. Pass the bolt through the washer, and then the chain keeper.

2. Thread the bolt into the frame, and tighten until finger tight.

IMPORTANT

Do not adjust the chain keeper yet. Final adjustment should wait until after the crank is installed.
10 INSTALLING AND ADJUSTING THE SEATPOST

TOOLS AND MATERIALS REQUIRED
- Seatpost
- Upper seal
- Seatpost clamp & bolts
- Lower seal

1. Slide the upper seal onto the seatpost.

**NOTE**
The upper seal will slide more easily if held perpendicular to the seatpost.

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

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

3. Pass the seatpost into the seat tube.

4. Align the arrow on the seatpost clamp to point upwards, then install the two clamp bolts.

5. Tighten the bolts just until the seatpost is held. Do not fully tighten yet.

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

7. To adjust the angle of the top of the saddle, loosen the rear pinch bolt, adjust the angle, then re-tighten the bolt.
8. To adjust the fore/aft position of the saddle, loosen the side rail clamp bolt, slide the saddle, then re-tighten the bolt.

9. To adjust the seat height, loosen two seatpost clamp bolts, adjust the height, and re-tighten the bolts.

10. Slide the seatpost upper seal down the seatpost until it meets the top of the mast.

We recommend that you go through a formal fitting procedure at your Trek retailer before making any changes to the bike fit.

### Raising handlebar height

1. Remove the stem top cap bolt and cap. Do not remove the steerer expander.

2. Loosen the stem pinch bolts.

3. Slide the stem up the steerer approximately 5-10mm and place the spacers on either side. Align the spacers with the tabs in the stem.

4. With the tabs aligned, slide the stem down and press firmly against the remaining spacers or bearing top cap.

5. Reinstall the stem top cap and adjust.

6. Tighten the stem pinch bolts.

### Lowering handlebar height

1. Remove the stem top cap bolt and cap. Do not remove the steerer expander.

2. Loosen the stem pinch bolts.

3. Slide the stem up the steerer approximately 5-10mm and remove each side of the spacers.

4. With the tabs aligned, slide the stem down and press firmly against the remaining spacers or bearing top cap.

5. Reinstall the stem top cap and adjust.

**NOTE**

After the new position is confirmed, your retailer can cut the steerer so that the round spacers are not needed.

6. Tighten the stem pinch bolts.
ATTACHING THE LIGHT OR REFLECTOR

TOOLS AND MATERIALS REQUIRED

- Light or reflector bracket
- Light or reflector

**Attaching the rear bracket and reflector or light**

1. Slide the light mounting bracket (or reflector bracket) onto the seat post clamp. The edges of the mounting bracket fit over the sides of the seatpost clamp. The bracket lever should snap over the bottom of the seatpost clamp.

2. Slide the light onto the mounting clip from left to right until the retention tab clicks into place on the back of the light.

---

**Attaching the front mount**

1. Remove set screw from the handlebar.

2. Attach the appropriate base (reflector, Single BlendR, or Double BlendR).

3. Attach the appropriate mount (reflector, light or computer) to the pivot using the bolt and nut provided.
13 TRAVELING WITH YOUR MADONE

TOOLS AND MATERIALS SUGGESTED
• Shipping container
• Rubber bands
• Bubble wrap
• Zip ties (or similar)
• Small piece of cardboard, foam, or cloth

Removing the handlebar

1. Remove the front brake cover and rear brake cover.

2. Remove the vector wing assembly. Place it in a bag to protect it. The bag will go in a corner of the bike box.

3. Remove the front brake wedge from the brake. Do not loosen or disconnect the front wedge from the brake cable.

4. Remove the housing, cable, and wedge (as a unit) out of the housing stop.

5. Remove the rear wedge from the rear brake. This should create enough slack in the brake housing to place the handlebar next to the bike in the following steps.

Attaching the handlebar to the frame

6. Slide the fork back up. You may want to wrap a rubber band or zip tie around the steerer just above the compression ring to hold the fork in place.

7. Place cloth, foam, or bubble wrap around the frame tubes to protect them, and then place the handlebar next to the bike.

8. With zip ties or something similar, secure the handlebar to the bike.

9. Place an loose parts (headset spacers or the drive size bearing top cap) in a plastic bag.

10. If the bike is still too big for the box, remove the seatpost. Completely remove the two rear clamp bolts, and slide the seatpost off the frame. To avoid losing loose parts when the seatpost is out of the frame, reinstall the bolts and clamp onto the seatpost.

11. Add protection to the rear derailleur, and remove the pedals as you would for a standard road bike.
### BIKE MEASUREMENTS (CM)

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The Madone 9 series IsoSpeed technology utilizes an internal seat tube that was engineered to move during normal riding conditions. To prevent water bottle screws from inhibiting this movement, the threaded water bottle mounting holes are designed with a depth stop, meaning the hole has a bottom. To properly mount a water bottle cage to the seat tube, M5 x 10mm screws included with the bike must be used. If the screw tightening maximum torque is reached and the cage isn’t tight, a washer may be added under the head of the screw. **Proper water bottle screw torque is 20-25lb*in (2.3-2.9Nm) for the steel bolts supplied with the bike.**

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