



**YAMAHA**

**2018**

**ASSEMBLY MANUAL**

**CROSS CONNECT**

**PW70CNL  
PW70CNM  
PW70CNS**

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## FOREWORD

This Assembly Manual contains the information required for the correct assembly of this Yamaha bicycle prior to delivery to the customer. Since some external parts of the bicycle have been removed at the Yamaha factory for the convenience of packing, assembly by the Yamaha dealer is required. No adjustment of the power unit mechanism, which plays the most important part in riding, is necessary because it has been adjusted at the factory before shipping. It should be noted that the assembled bicycle should be thoroughly cleaned, checked, and adjusted prior to delivery to the customer.

## IMPORTANT

The service specifications given in this assembly manual are based on the model as manufactured. Yamaha Motor Company, Ltd. is continually striving to improve all of its models. Modifications and significant changes in specifications or procedures will be forwarded to all authorized Yamaha dealers and will appear in future editions of this manual where applicable.

The procedures below are described in the order that the procedures are carried out correctly and completely. Failure to do so can result in poor performance and possible harm to the bicycle and/or rider.

### CONCERNING CRATE DAMAGE:

Follow the instructions in the Dealer Warranty Handbook, Procedure Section.

Particularly important information is distinguished in this manual by the following notations.

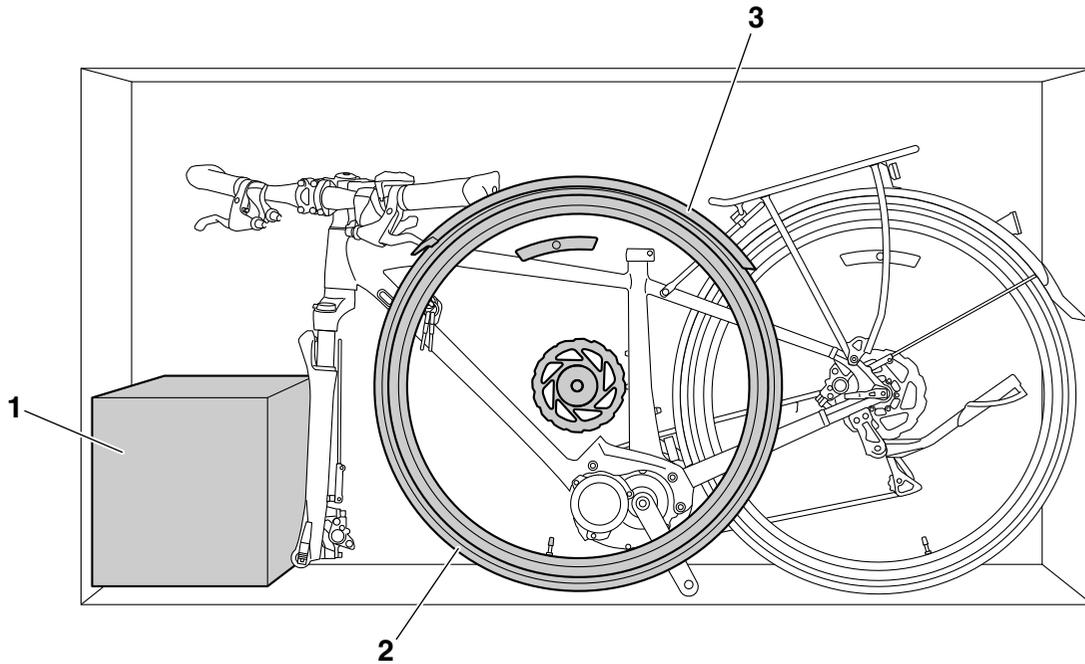
	<b>This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.</b>
	<b>A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.</b>
	<b>A NOTICE indicates special precautions that must be taken to avoid damage to the bicycle or other property.</b>
	<b>A TIP provides key information to make procedures easier or clearer.</b>

PW70CNL/PW70CNM/PW70CNS  
ASSEMBLY MANUAL  
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## PARTS LOCATION

### NOTICE

- Do not use a cutter, scissors, or other sharp object to open the part boxes; otherwise, the included parts could be damaged.
- Wear suitable protective gear such as gloves when handling and opening the part boxes.



1. Part box 1
2. Front wheel
3. Front fender

# INCLUDED PARTS

## INCLUDED PARTS

The parts listed as follows are included\*. Check the parts and their quantities before starting assembly.

No.	Part names	Q'ty	Remarks
①	Front wheel	1	
②	Front fender	1	
③	Part box 1	1	
④	Part box 2	1	③ in part box 1
⑤	Part box 3	1	③ in part box 1
⑥	Part box 4	1	③ in part box 1

### Part box 1 details

⑦	Saddle and seat post assembly	1	
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### Part box 2 details

⑧	Front axle	1	
⑨	Pedals	2	1 each for left and right
⑩	Bell	1	
⑪	Front reflector	1	
⑫	Owner's manual	1	
⑬	Button cell battery	1	⑫ in owner's manual pouch Standard CR2032

### Part box 3 details

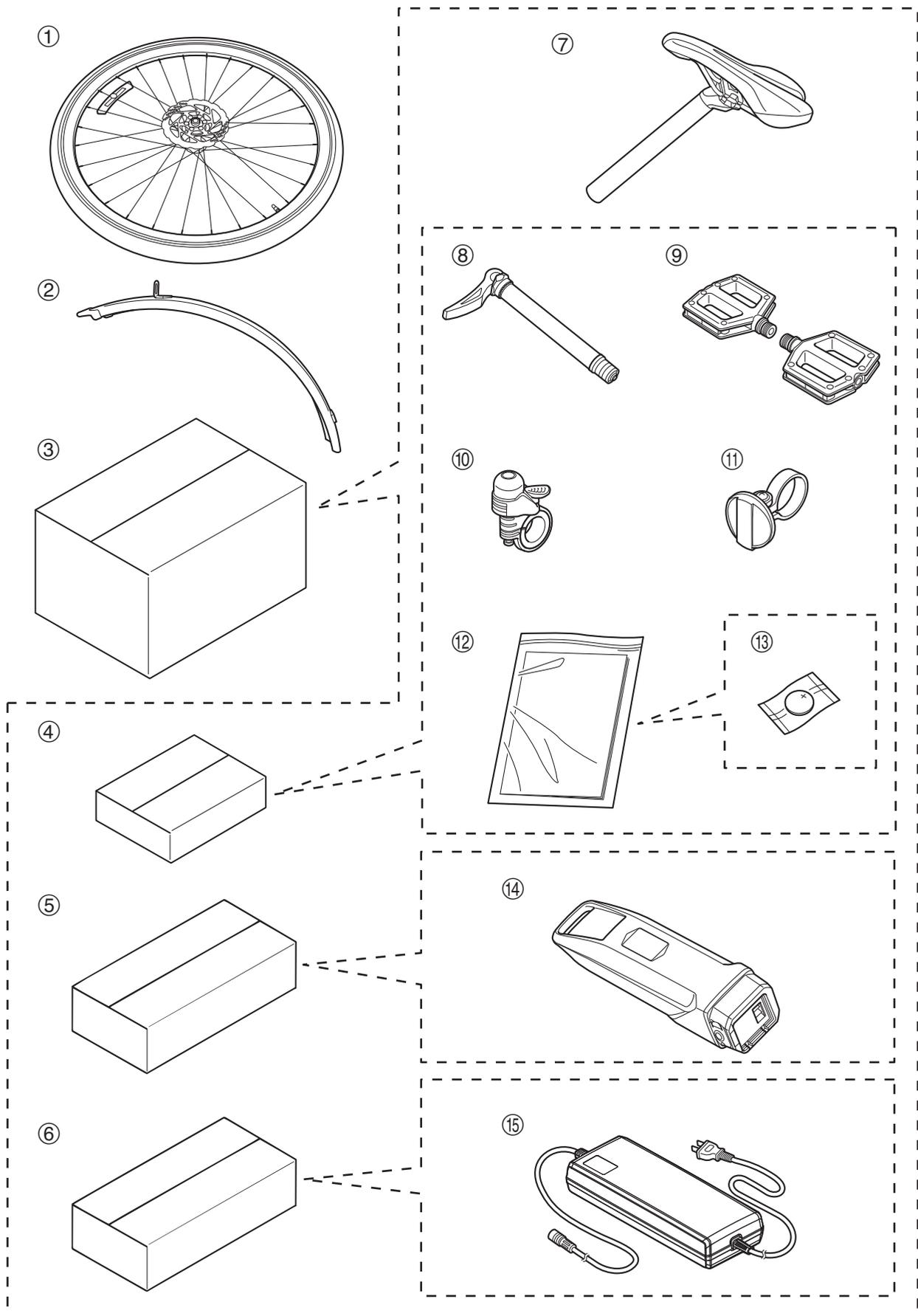
⑭	Battery pack	1	
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### Part box 4 details

⑮	Battery charger	1	
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\* The form of the package is subject to change without notice.

# INCLUDED PARTS



# INSTALLING THE INCLUDED PARTS

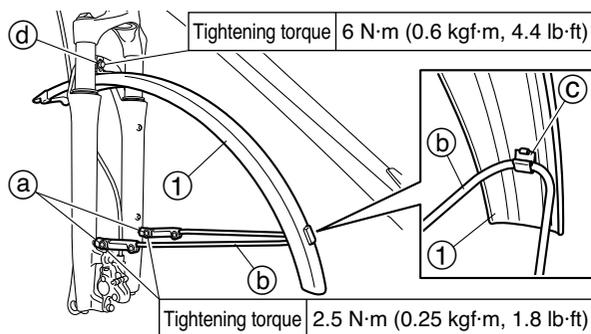
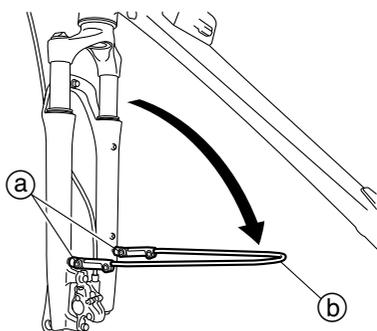
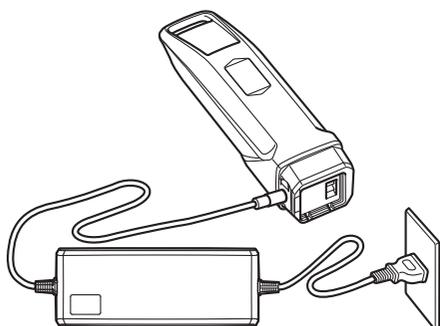
## INSTALLING THE INCLUDED PARTS

### WARNING

Tighten the bolts and nuts to the specified torques. Failure to tighten the bolts and nuts to the specified torques could prevent proper operation of the bicycle and make it unsafe to operate.

### TIP

- Charge the battery pack following the instructions in the owner's manual before starting installation.
- The letters inside the parts list boxes in the assembly procedures indicate the following:  
A: Part in part box 1  
B: Part in part box 2  
C: Part in part box 3



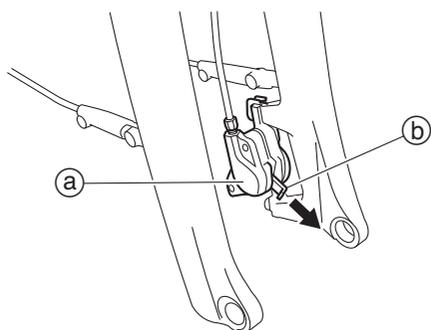
### 1. Installing the front fender

Loosen the bolts (a) and lower the stay (b) until 90°.

Secure the stay (b) to the portion (c) of the front fender (1).

Adjust the installation position of the front fender (1) and tighten the bolts (a) and (d) to the specified torques.

(1)	Front fender	1	
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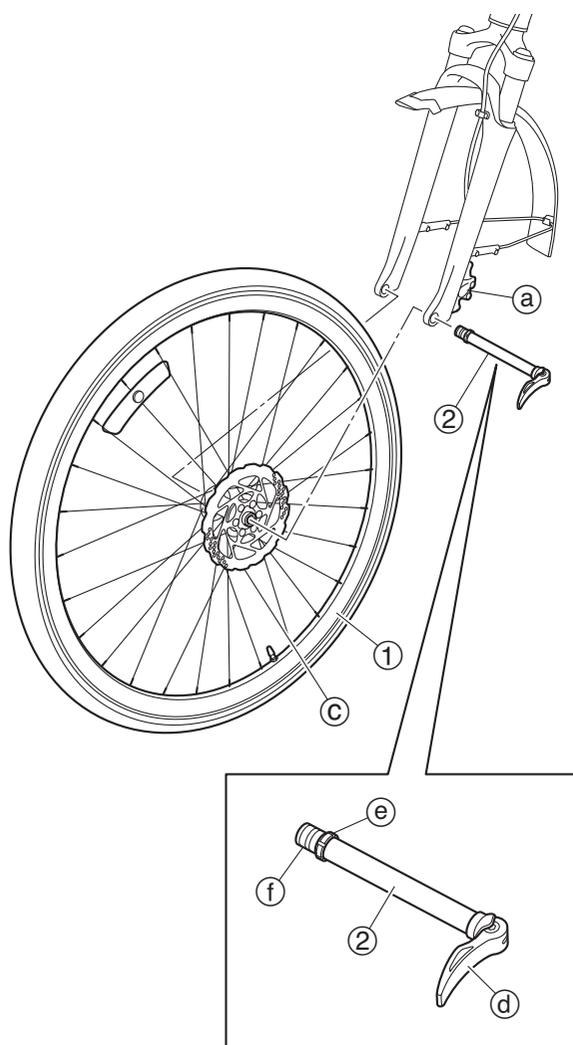


### 2. Installing the front wheel and fork end

Remove the spacer (b) from the front disc caliper (a).

Give the removed spacer (b) to the customer, explaining how it is used.

# INSTALLING THE INCLUDED PARTS



Align the holes in the front wheel ① with the holes in the fork end and install the front wheel ①.

Install it in such a way that the disc rotor ③ does not touch the disc pad.

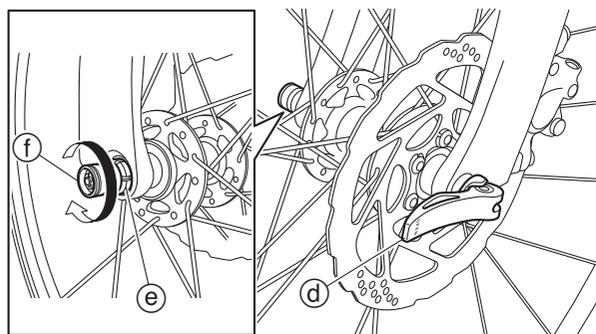
Put the lever ④ of the front axle ② down in the direction in which the stamp "OPEN" is visible and check that the collar ⑤ is open.

Install the front axle ② to the fork end holes from the left side of the bicycle.

## TIP

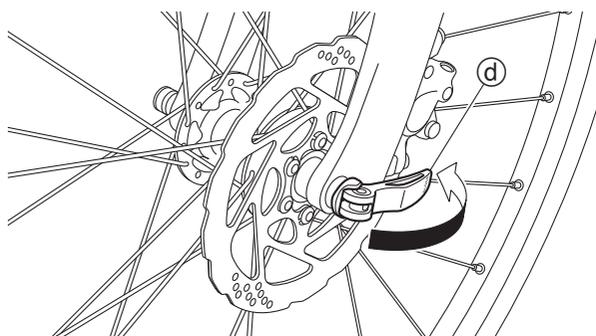
- Even if the collar ⑤ of the front axle ② is inserted with the collar open, it will close when pressed in.
- When the collar ⑤ is closed, turn the nut ⑥ approximately 1/8 turn counterclockwise while keeping it pressed in; the collar will then open.

①	Front wheel	1	
②	Front axle	1	B



Check that the collar ⑤ of the front axle ② goes through the hole in the right side of the fork end and that the collar is actually open.

Turn the nut ⑥ while keeping it pressed to prevent the lever ④ from turning, and tighten it until there is a little resistance.



Determine the position in which the lever ④ is to be fastened, lower it in the direction in which the stamp "CLOSE" is visible, then fasten it.

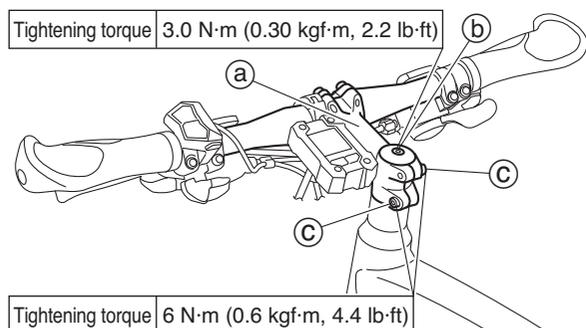
# INSTALLING THE INCLUDED PARTS

## WARNING

- Position the lever when it cannot touch obstacles while the bicycle is moving. If not, the lever could be unlocked unexpectedly, causing the front wheel to come off, resulting in an accident with severe injury or death.
- Fasten the lever ④ at position where the tip does not touch other parts when the lever ④ is lowered.
- Fasten the lever ④ facing backward from the direction of travel in such a way that it cannot easily touch obstacles that might be encountered while riding.

## TIP

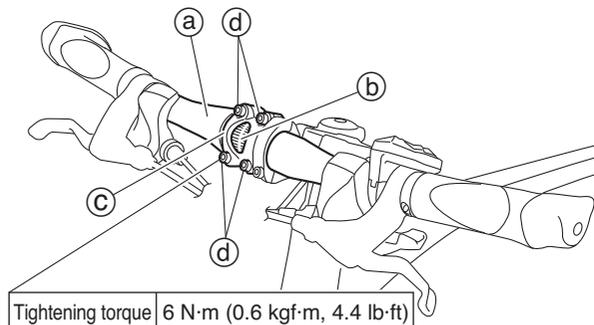
If the lever ④ of the front axle ② is too hard and cannot be lowered, or if it is too loose and cannot be lowered for it to be locked, turn the nut ⑥ again to loosen or tighten it, adjusting so that it can be fastened securely.



### 3. Installing the handlebar stem

Position the handlebar stem ① in a straight line with the front wheel.

Tighten the bolts ② and ③, in that order, to the specified torques.



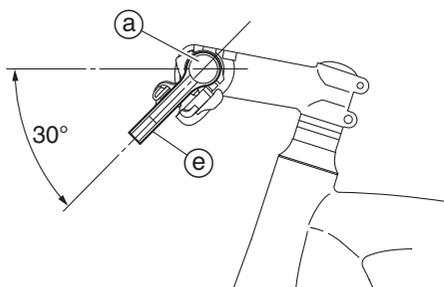
### 4. Installing the handlebar

Install the handlebar ① so that the knurled part ② is at the center of the handlebar holder ③, then tighten the 4 handlebar holder ③ bolts ④ to the specified torque.

## NOTICE

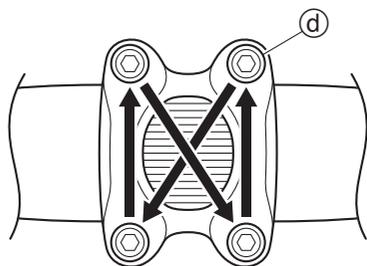
The handlebar ① should not touch the frame when it is turned fully to the left or right.

# INSTALLING THE INCLUDED PARTS



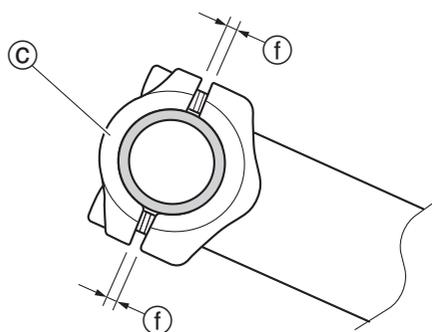
## TIP

Install the handlebar ① so that the brake levers ② are at a 30° angle to the handlebar, as shown in the illustration.



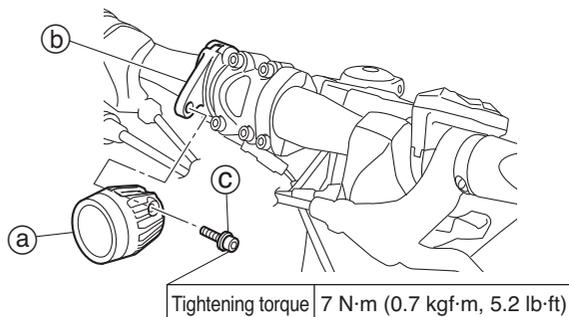
## TIP

- Tighten bolts ④ evenly in stages, in the order shown in the illustration.
- Tighten in such a way that the gaps ⑥ above and below the handlebar holder ③ are equal.



## 5. Installing the headlight

Install the headlight ① to the bracket ② as shown, then tighten the bolt ③ to the specified torque.

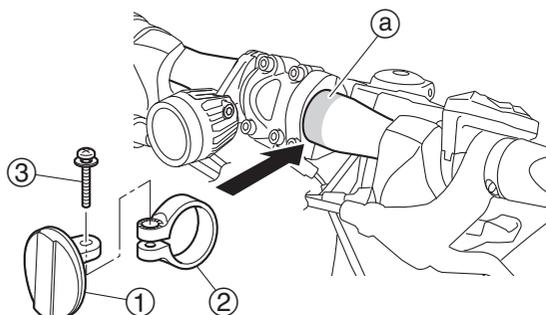


## TIP

Install in such a way that the headlight points downward from horizontal and shines on the road approximately 33 feet (10 meters) ahead.

## 6. Installing the front reflector

Install the front reflector ① in the position ② shown in the illustration, then tighten it together with the stay ② and screw ③.

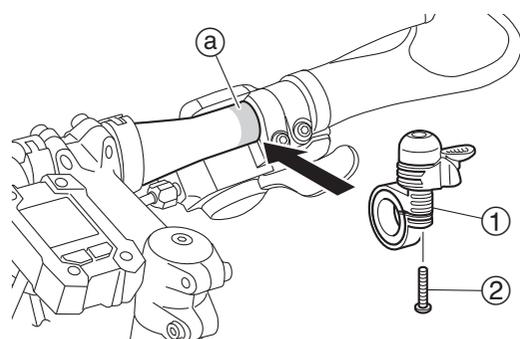


## TIP

Adjust so that the front reflector ① faces straight ahead, then tighten the screw.

①	Front reflector	1	B
②	Stay	1	B
③	Screw	1	B

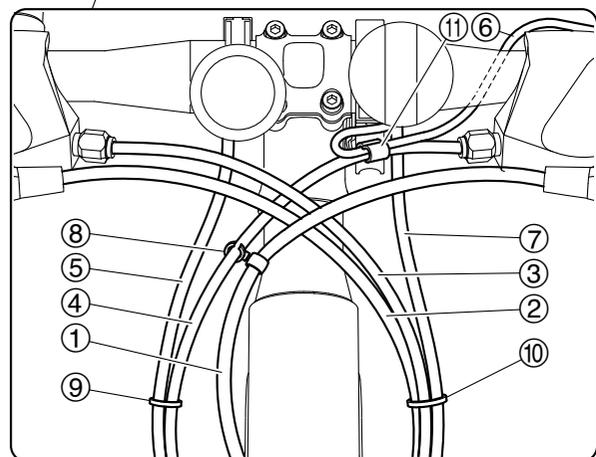
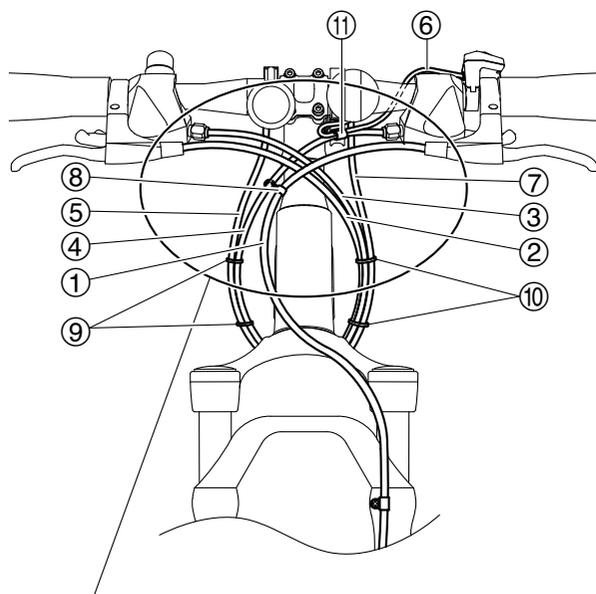
# INSTALLING THE INCLUDED PARTS



## 7. Installing the bell

Install the bell ① in the position ② shown, then tighten it with the screw ②.

①	Bell	1	B
②	Screw	1	B



## 8. Routing the wires

### **⚠ WARNING**

Be sure to route the wires as shown in the illustration. If not, they could interfere with handlebar operation which could cause loss of control.

Confirm that hoses and wires are routed in order starting from front to back

- Front brake hose ①
- Rear brake hose ②
- Rear shift wire ③
- Front shift wire ④
- Headlight lead ⑤
- Switch unit lead ⑥
- Display unit lead ⑦

Clamp the front brake hose ① and front shift wire ④ with the wire clip ⑧ at the position shown in the illustration.

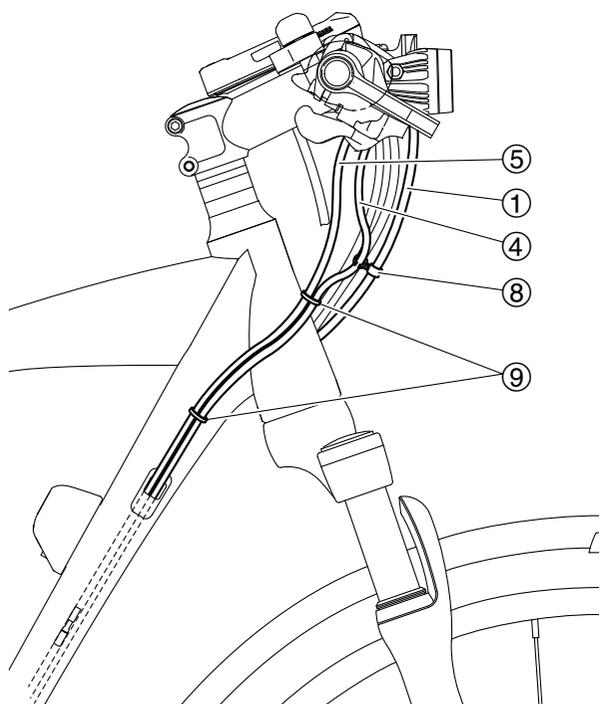
Clamp the front shift wire ④ and headlight lead ⑤ with the plastic locking ties ⑨ at the position shown in the illustration.

Clamp the rear brake hose ②, rear shift wire ③ and display unit lead ⑦ with the plastic locking ties ⑩ at the position shown in the illustration.

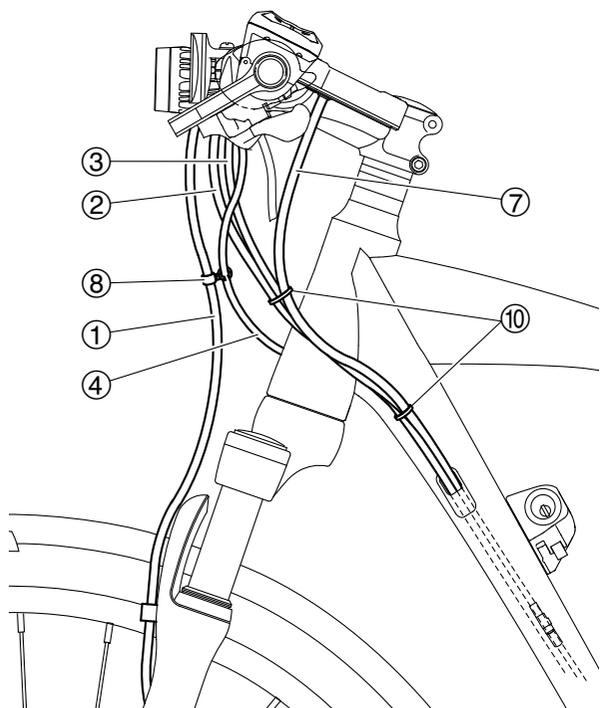
Clamp the front shift wire ④ and switch unit lead ⑥ with the wire clip ⑪ at the position shown in the illustration.

## INSTALLING THE INCLUDED PARTS

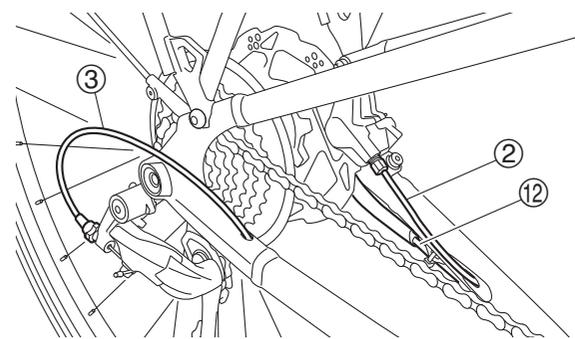
Check that the front brake hose ①, front shift wire ④, headlight lead ⑤, wire clip ⑧, and plastic locking ties ⑨ are placed as shown in the illustration.



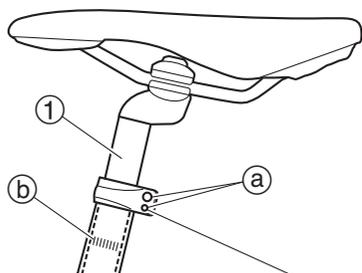
Check that the front brake hose ①, rear brake hose ②, rear shift wire ③, front shift wire ④, display unit lead ⑦, wire clip ⑧, and plastic locking ties ⑩ are placed as shown in the illustration.



Check that the rear brake hose ②, rear shift wire ③, and speed sensor lead ⑫ are routed as shown in the illustration.



# INSTALLING THE INCLUDED PARTS



Tightening torque 4.0 N·m (0.40 kgf·m, 3.0 lb-ft)

## 9. Tightening the seat pin

Insert the saddle and seat post ①, then tighten the bolt ② to the specified torque.

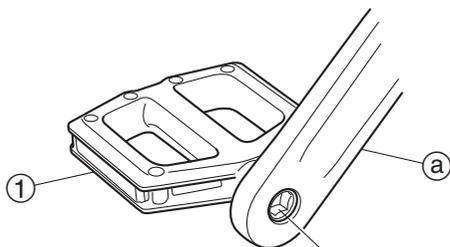
①	Saddle and seat post	1	A
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### ⚠ WARNING

- Insert the seat post far enough that the raise limit ③ is not visible. If installed at a position at which the raise limit ③ is visible, the seat post, clamp, or even frame may break, which could cause the rider to lose control and fall.
- Always tighten fasteners to the correct torque. Bolts that are too tight can stretch and deform. Bolts that are too loose can move and fatigue. Either mistake can lead to a sudden failure of the bolt, causing the rider to lose control and fall.

### NOTICE

Do not insert the seat post completely when lowering the saddle. The bottom edge of the seat post could touch parts inside the seat pipe, breaking the seat post or the parts inside the seat pipe. If the seat post is inserted fully, lift it slightly then fasten it.



Tightening torque 40 N·m (4.0 kgf·m, 30 lb-ft)

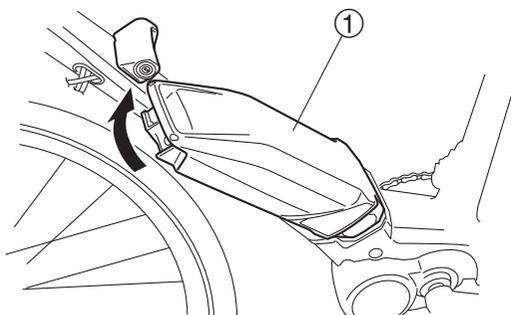
## 10. Installing the pedals

Install the pedal ① to the crank ②, then tighten to the specified torque.

①	Pedals (left and right)	1 each	B
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### TIP

- Right screw for the right pedal
- Left screw for the left pedal

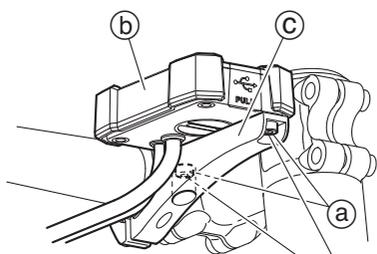


## 11. Installing the battery pack

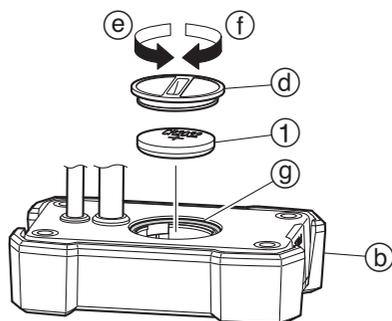
Check that the battery pack ① is fully charged according to owner's manual procedures, then install the battery pack ①.

①	Battery pack	1	C
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# INSTALLING THE INCLUDED PARTS



Tightening torque 2.0 N·m (0.20 kgf·m, 1.5 lb·ft)



## 12. Installing the display unit's button cell battery

Loosen the bolts (a) and remove the display unit (b) from the bracket (c).

Turn the button cell battery cover (d) on the back of the display unit (b) in direction (e), remove it, then install the button cell battery (1).

Mount the button cell battery cover (d), then turn it in direction (f) until it locks.

①	Button cell battery	1	B
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### NOTICE

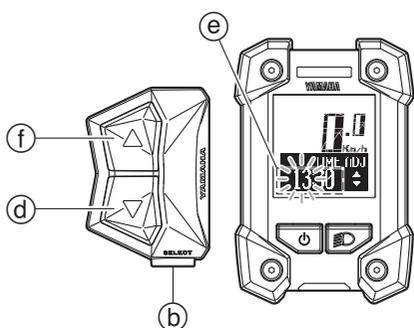
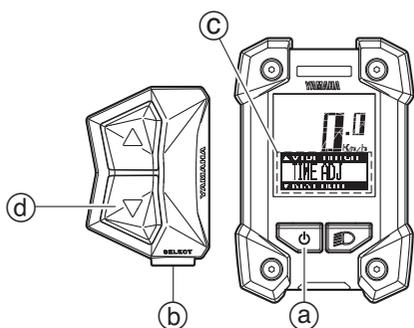
- Install the button cell battery with the plus (+) mark facing upward.
- Check that the O-ring (g) is properly installed.

After installing the button cell battery, install the display unit onto the bracket following the removal procedure in reverse order.

Peel off the protective film after installing.

## 13. Adjusting the display unit's time

- Press the power switch (a) to turn on the power.
- Press and hold the function select switch (b) (2 seconds or longer) until the function display (c) switches to the main menu display.
- Press the "▼" assist mode switch (d), display "TIME ADJ" on the main menu display, then press the function select switch (b) to set.

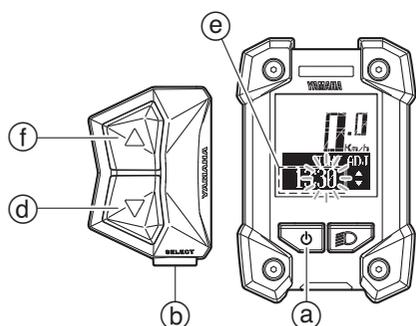


- The hours value increases when the "▲" assist mode switch (f) is pressed while the "Hour" section of the clock (e) is flashing.

The hours value decreases when the "▼" assist mode switch (d) is pressed.

Press the function select switch (b) to set the hours.

# INSTALLING THE INCLUDED PARTS



E. The minutes value increases when the “ ▲ ” assist mode switch (f) is pressed while the “Minute” section of the clock (e) is flashing.

The minutes value decreases when the “ ▼ ” assist mode switch (d) is pressed.

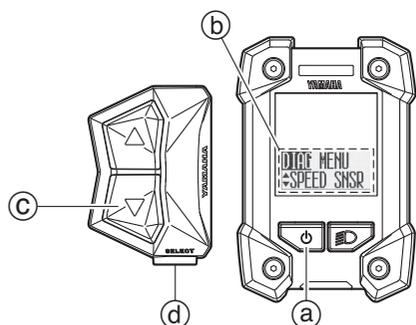
Press the function select switch (b) to set the minutes.

F. The time is set and the mode returns to the normal mode.

## TIP

If you make a mistake adjusting the time, start over from step B.

G. Press the power switch (a) to complete adjustment of the time.



## 14. Checking the operation of the speed sensor

A. Press the power switch (a) to turn on the power.

B. Long-press the power switch (a) (approximately 10 seconds) within 30 seconds after turning on the power, check that the display switches to the diagnosis function selection screen (b), then release the power switch (a).

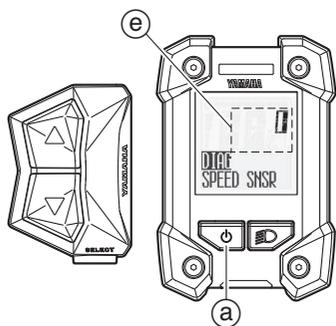
C. Press the “ ▼ ” assist mode switch (c), display “SPEED SNSR” on the diagnosis function selection screen (b), then press the function select switch (d) to set.

D. Check that the speedometer (e) is displayed and that the speed sensor checking mode has been set.

E. The number displayed on the speedometer (e) counts up when the rear wheel is lifted off the ground and turned.

The number increases by 1 for 1 turn. Check that the position of the wheel at which the display counts up is stable.

F. After checking the operation, press the power switch (a) to quit.



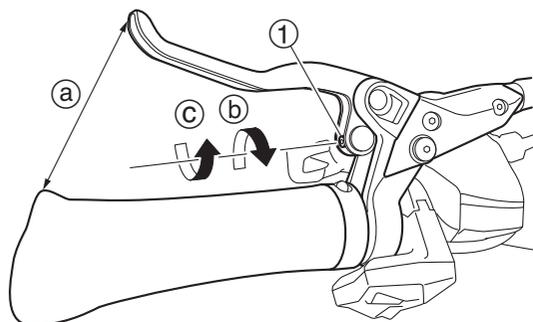
## TIP

Turn the rear wheel at least 3 revolutions and check that the display reads “3”.

## 15. Adjusting the opening of the front and rear brake levers

Before adjusting the opening of the brake levers, grip the brake levers approximately 10 times to pump them.

Turn the adjusting screw (1) to adjust the opening of the tip of the brake lever (a) from the tip of the grip.



(b) direction	Opening gets larger.
(c) direction	Opening gets smaller.

# INSTALLING THE INCLUDED PARTS

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## **NOTICE**

After adjusting the brake lever opening, check that the rotation of the front and rear wheels is not heavy.

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## **TIP**

Adjust to a position at which it is easy for the customer to operate the front and rear brake levers and within the range of play of the brake levers.

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## PREDELIVERY INSPECTION

### **WARNING**

**After completing the installation, inspect the items as follows and check that there are no problems before delivering the bicycle. Adjust controls and saddle height to the customer's satisfaction according to this manual.**

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- Handlebar orientation, height, angle, and tightening
- Saddle orientation, height, angle, and tightening
  - \* Check that the saddle is firmly fastened.
- Various fittings adjusted to the customer's riding posture
  - \* Including brake lever angle, fork suspension air pressure, etc.
- Inspection of the wheels, hubs, and spokes
- Tightening of the pedals
- Tightening of the screws of each part
- Brake performance
- Shift changing operation
- Looseness of the chain
- Bell sound
- Battery pack locking operation
  - \* Check that the battery pack locks securely.
- Check of battery pack and battery charger operation
- Operation of the meter, switches, and drive unit
- Light, brightness, and angle of the headlight
  - \* Check that the headlight shines on the road approximately 33 ft. (10 m) ahead.
- Installation state of the reflectors
- Maximum tire air pressure
  - Front tire: 515 kPa (5.1 kgf/cm<sup>2</sup>, 75 psi)
  - Rear tire: 515 kPa (5.1 kgf/cm<sup>2</sup>, 75 psi)



