

# Installation Manual

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Type H4

Type HB3/HB4/HIR1 /HIR2

Type H8/H9/H11 /H16

Type H7

# PIAA

## Installation Manual for LED Bulbs (Type H4)

Thank you very much for purchasing PIAA product. Read this instruction manual thoroughly for proper use of the product. After completing your installation, please keep this manual for future reference.

For customers ..... Please forward this manual to the next owner.

For installation service agents ..... Be sure to hand over this instruction manual to the customer after installation.

※ **CAUTION** marks and **WARNING** marks in this manual indicate important notices for installing this product. Be sure to follow these notices in order to ensure safe and reliable work.

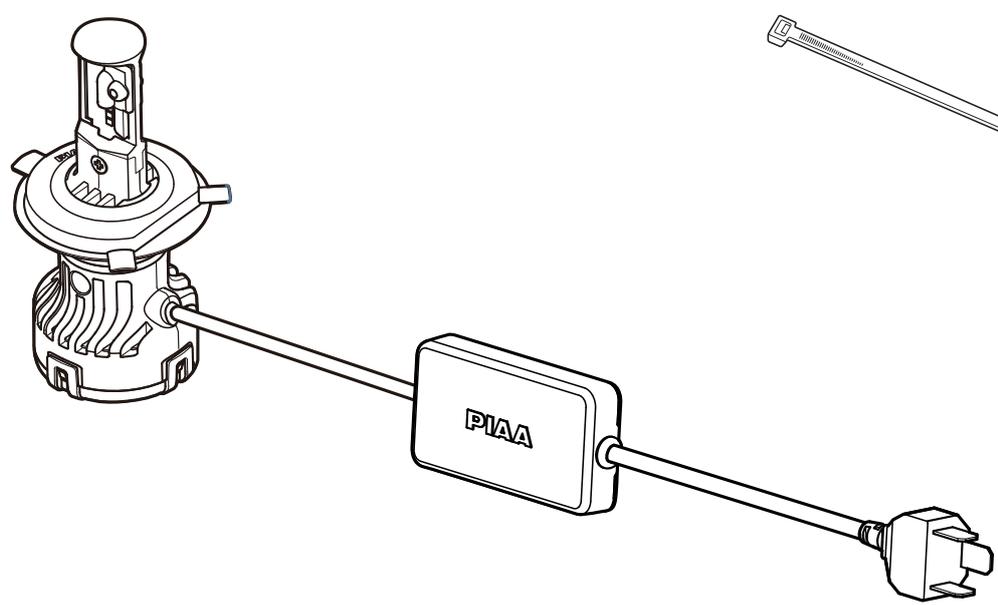
**CAUTION** Indicates procedures or situations that may cause bodily harm if used improperly.

**WARNING** Indicates items that may cause damage or abnormality to products if used improperly.

### Contents

① LED bulb assembly (H4 type) [2 pieces]

② Tie wrap [4 pieces]



## About bulb replacement

### **WARNING**

- When replacing the LED bulb, make sure the power is turned off and then remove the battery minus (-) terminal before carrying out the replacement procedure. Not doing so may result in not only a fire hazard but possible electrocution or bodily injury. In addition, please use rubber gloves when carrying out this work process.
- Bulb replacement should be done safely on a flat surface where a wide space is available. Before replacement, stop the vehicle engine, apply the emergency brake, place the shift in neutral position, and pull out the key.

### **CAUTION**

- Before installing the LED bulb, make sure there is no visible damage or that there is any evidence of it being dropped. If any part is broken or damaged, it may cause it to illuminate abnormally.
- Please handle the bulb with care. Excess force may damage the product
- When installing the bulb, make sure to firmly connect the bulb connector and also verify that the rubber cap is installed. In addition, make sure to install it so that the harness section (electric wire) is not snagged in the cap or other sections.
- As a result of replacing the bulb, the axis of the light may become misaligned. Therefore, after replacement, check the lamp position and make necessary adjustments to the alignment.
- Make sure not to touch the base part or the area that illuminates light. Also, prevent any type of oil or dirt from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction.
- Never turn the switch to "ON" when the LED bulb and the bulb connector are not connected.
- Make sure to prevent moisture from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction. If moisture is present, let it dry out thoroughly before use.
- Do not yank on the harness when disassembling. Doing so may damage the harness leading to overheating and potential failure.
- Be careful not to lose the original bulbs by keeping them in a safe place after removal.
- Verify the position of the product as well as the metal base of the connector. Check the proper direction and the install it securely.
- In the case of connector or terminal desorption, hold the connector terminal and straighten it out. Please note that if excessive force is applied to the terminal it may break or it may no longer connect. As a result it may cause damage leading to overheating and potential failure.
- Make sure not to apply excessive force to the light emitting part. If this part is damaged, it may cause a lighting malfunction. Please handle this product with extreme care.

## Precautions for Use

### **WARNING**

- Do not touch the LED bulb directly as it is extremely hot when it is illuminated and also retains considerable heat immediately after turning it off.
- Do not look directly at the lamp for extended periods of time while it is illuminated. This may cause pain to the eyes and may cause adverse effects to your eyesight.

## ⚠️ **WARNING**

- Do not disassemble or modify the unit in any way. Doing so may cause damage, fire or result in bodily injury.
- If there is abnormal vibration or sound when the vehicle is in motion, immediately stop the vehicle in a safe location and inspect the vehicle.
- Keep the product out of reach of infants. Otherwise infants may swallow or break the product, leading to injury.
- When the lamp is lit, the lens becomes hot. Do not wash the vehicle while the lights are on or immediately after turning them off.

## ⚠️ **CAUTION**

- This product is for 12V vehicles. Check the bulb type before use. Do not mount or use the product for different types.
- This product can be installed in lamps that use a H4 bulb. Before replacing the bulb with the new one, make sure to check the markings on the old bulb. Make sure there is no problem before continuing.
- On some vehicles (including imported models) a warning lamp may go on indicating that the bulb has burned out or some other type of abnormal indication may occur. This phenomenon is common to LED products. In addition, in order for the system to sense that a bulb has burned out, a minute amount of electric voltage continues to flow even when the switch is turned off. Therefore, please be aware beforehand that when the bulb is replaced, the LED bulb may light up slightly but this is not a product malfunction. (The amount of voltage that is consumed when the LED lights up is minimal. The amount is equal to what is used to power the vehicle's clock and will not lead to a sudden drop in battery power.)
- Because LEDs have a different luminescence process from H.I.D. or halogen bulbs, even if the light color is the same it may look different when seen from a human eye. In addition, depending on the lamp setting, the light color may change. (Even when installing a bulb with the same color temperature in a lamp housing, the color variation may vary.)
- With regards to this bulb, turn on the light after switching the engine's ignition to the "ON" position. In the case of hybrid engines, switch the engine's ignition to the "READY-ON" position. (If the engine's ignition indicates "Engine-OFF" or in the case of hybrid vehicles, "READY-OFF", the light may not turn on in some cases. The light will go on normally if the ignition indication reads "Engine-ON" or "READY-ON")
- When using this product in vehicles that have idling stop systems or have weak battery power, the light may fail to light up or may flicker when starting the engine.
- If this product is installed and used in a lamp fitting that has deteriorated after extended use, the functional performance of this product may not have the originally intended effect. As a result, there is a possibility that it may not successfully pass the required automobile inspection. If this is the case, replace it with the original bulb.
- When installing this product on vehicles that have "corner sensors" (sonar), there is a possibility that these type of sensors may not operate properly. Make sure to install the controller approximately 20cm or more away from the sensor.

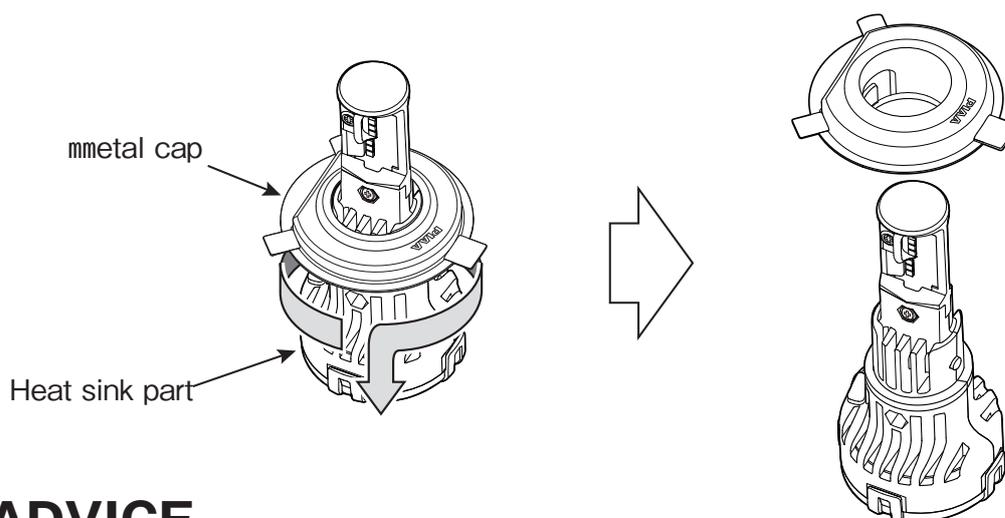
 **CAUTION**

- Below features to the vehicle are designed based on usage of original light bulb. Replacement to LED light bulb may cause malfunction of these functions. If these functions fail, stop using the LED bulb and replace them back to original bulb.
  - Automatic Brake,    • Adaptive Cruise Control,    • Advanced Safety Vehicle (ASV)
  - Clearance sonar    • Parking assist    • Adaptive headlamp    • Lane Departure Warning
  - Automatic high beam    • Other systems which use: infrared laser, Camera, ultrasonic sound wave, millimeter-wave radar
- When this bulb/lamp is turned on, there is a possibility that noise interference may influence the radio or other such devices. Please note that this is not a malfunction of any kind.
- During heavy rain or when putting the vehicle through a car wash, condensation may build up inside the lamp due to the difference in temperature inside and outside the lamp. Please note that it will not affect the overall function of the lamp.

## 【1】 Replacement procedure

※ The installation work may be easier with parts, such as the lamps, front bumpers or front grill removed. Remove such parts before installation as deemed necessary.

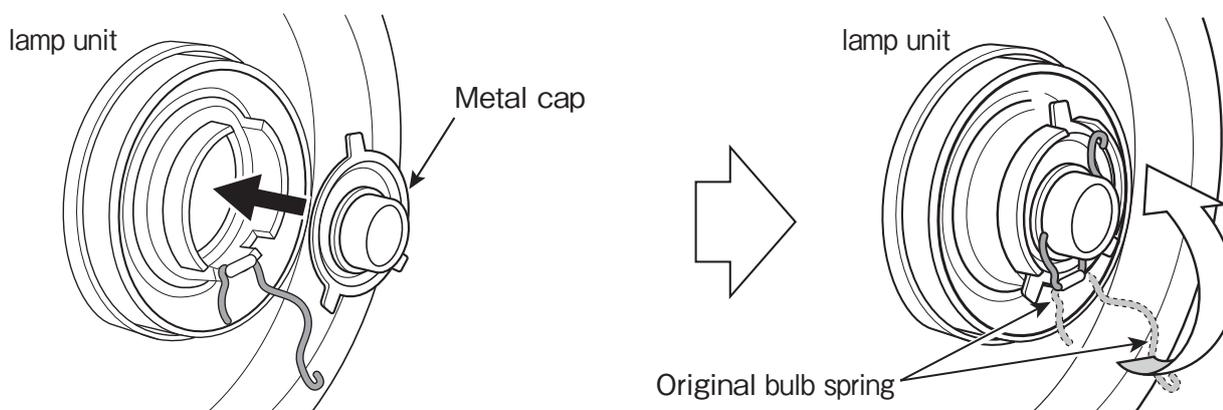
- (1) Refer to the vehicle's user manual to verify the location of the original bulbs, and remove them.
- (2) Hold the metal cap on the LED bulb (Part ①) assembly firmly and then turn the heat sink part as shown in the illustration below.



### **ADVICE**

- Be extremely careful when pulling the metal cap section out of the LED bulb, because this section is very thin. If it is held too tightly, there is a danger that you may cut your fingers. It may be a good idea to hold the metal cap section with a soft cloth when carrying out the work procedures.

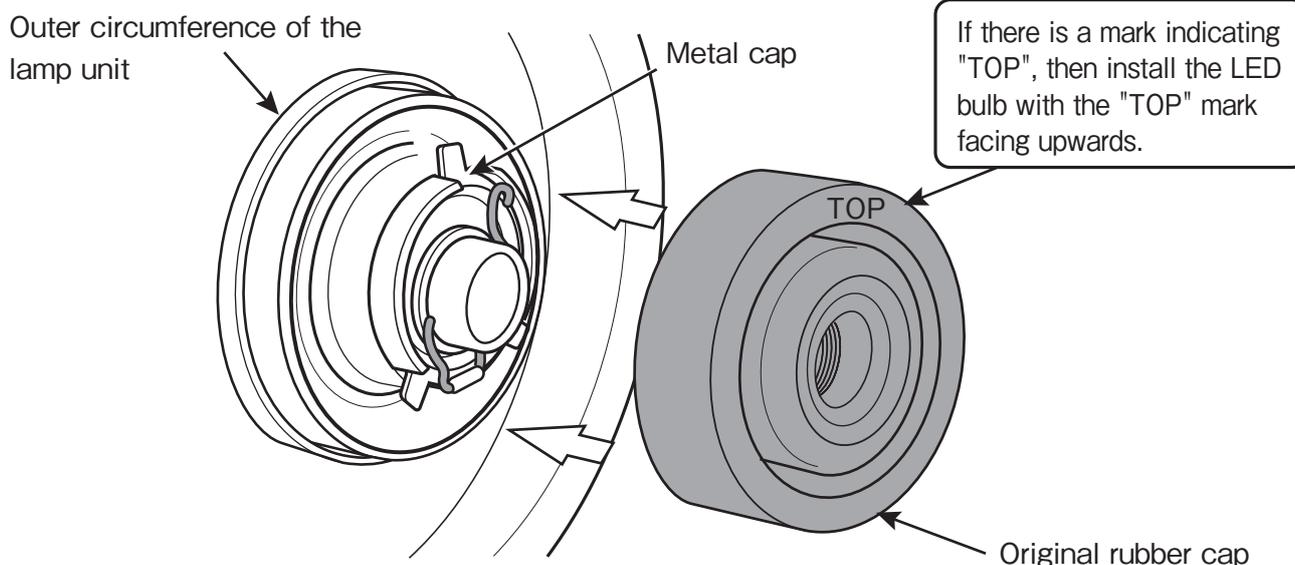
- (3) After installing the metal cap to the lamp unit, use the bulb spring that is provided and firmly fix the unit in place.



### **CAUTION**

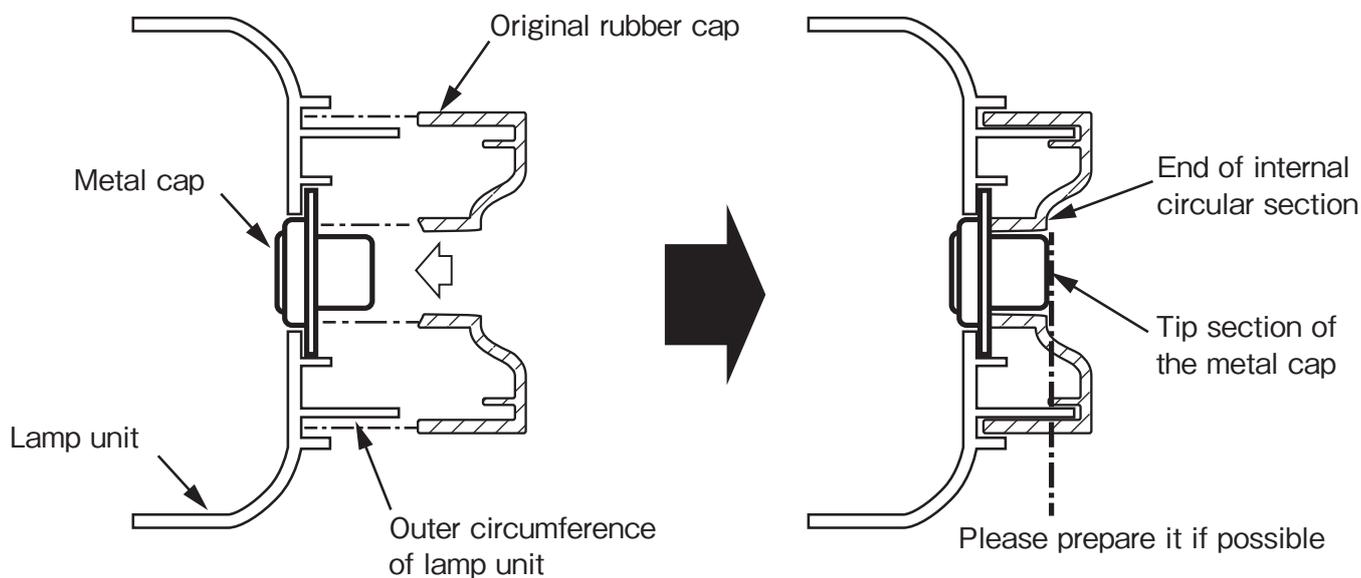
- When installing the metal cap onto the lamp unit, be very careful not to drop the cap into the lamp unit.

- (4) Install the rubber cap that is provided to the metal cap (which was installed in step (3)) and the outer circumference of lamp unit.



- ※ Push the rubber cap that is provided as far inside as possible as shown in the illustration below. Install the rubber cap and metal cap so that the inner circumference of the two cap edges line up as much as possible.

Cross section of LED bulb assembly viewed from the side

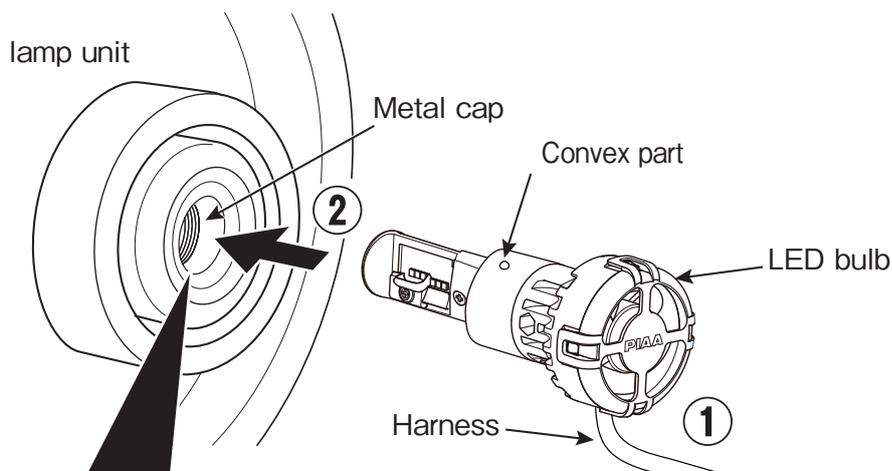


## **ADVICE**

- If the rubber cap is too tight and will not go in further, lubricate the end with some silicon spray or apply some synthetic detergent diluted in water. (Please do not use products that use organic liquids such as CRC556, which may cause the rubber material to deteriorate.)

(5) Install the metal cap section to the LED bulb following procedures (Steps ① to ⑤) as shown in the following illustrations.

① Prepare the harness that will be attached to the LED bulb face down.



② Press the LED bulb into the metal cap making sure to align the protruding part of the bulb with the slots provided on the metal cap.

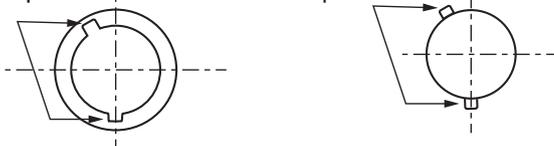
Illustration of LED bulb assembly viewed from the back

metal cap

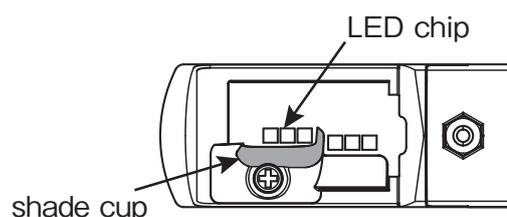
LED bulb

Concave part

Convex part



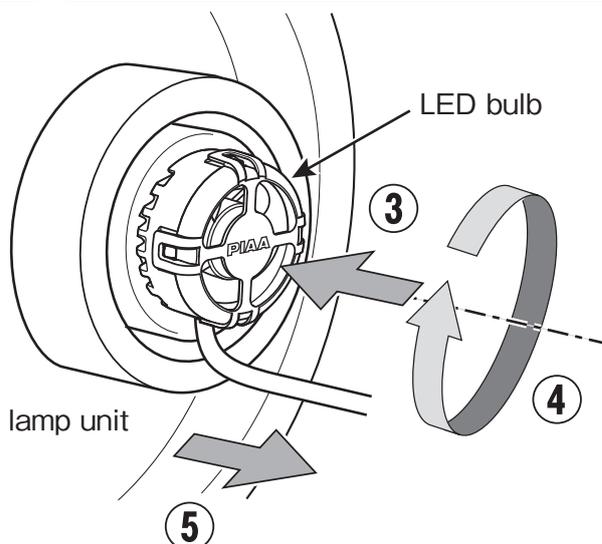
※Ensure the shade cup is located under the LED chip. If opposite, the bulb cannot be mounted.



③ While pressing it in firmly.

④ Turn it clockwise until it does not turn anymore (approx. 30° ) and then lock the LED bulb in place.

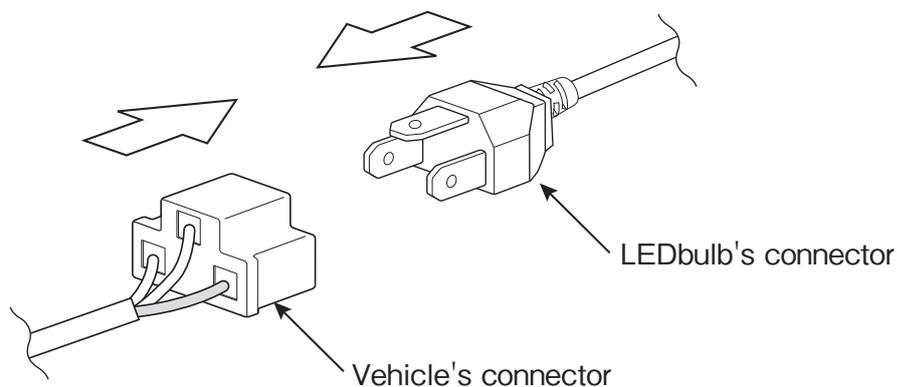
⑤ Verify the LED bulb is firmly locked in place. If it comes loose, repeat Steps ③ and ④.



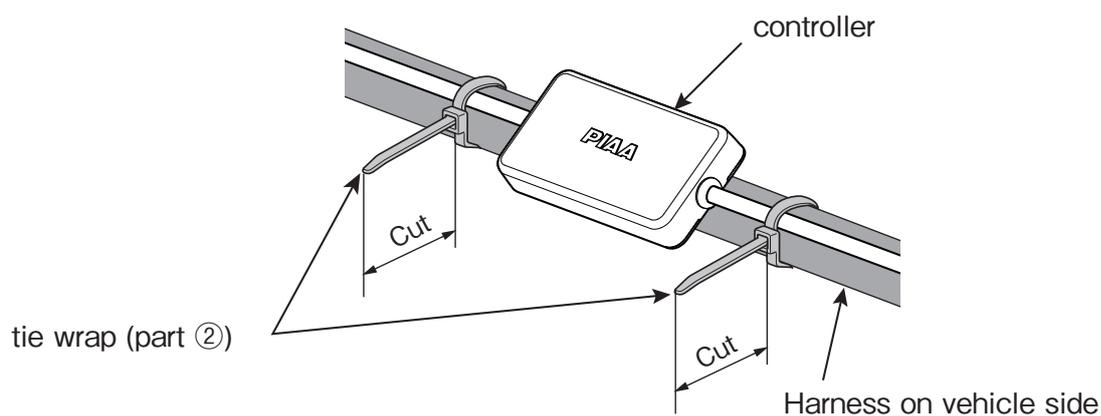
## ⚠ CAUTION

- If the LED bulb is not firmly inserted and then forcibly rotated in this condition it may break the plastic section of the metal cap. Be extremely careful when inserting the LED bulb. Make sure to follow instructions when inserting the LED bulb as described above (Step ③) before rotating it in a clockwise direction.

- (6) Connect the vehicle's connector to the LED bulb's connector and make sure the lamp lights up.



- (7) Fix the controller in place on the vehicle side using the tie wraps provided (part ②).



- (8) Check that the LED bulb lights up properly and make sure the light beam is not set too high or too low. If the light beam is not properly aligned, make the necessary adjustments.

# PIAA

## Installation Manual for LED Bulbs (Type HB3/HB4/HIR1/HIR2)

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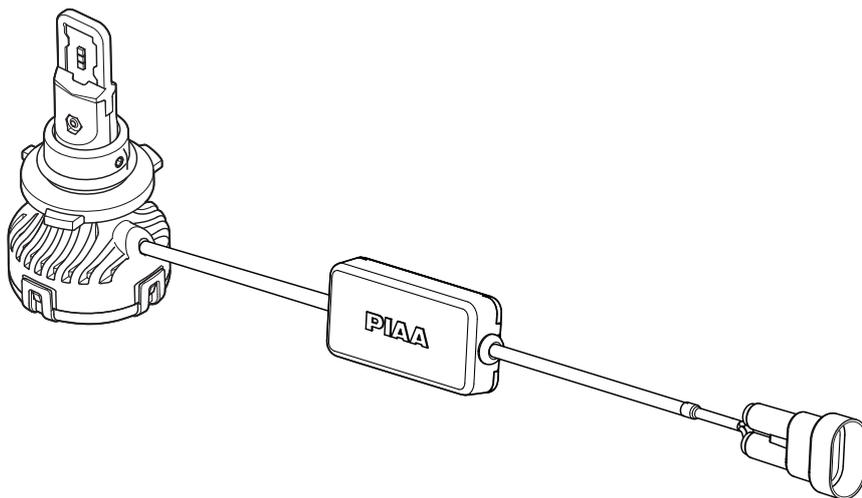
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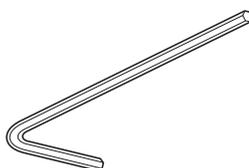
- ① LED bulb (HB3/HB4/HIR1/HIR2 type) 【2 pieces】



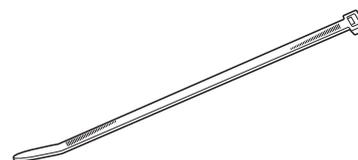
- ② O-ring (Red) 【2 pieces】



- ③ Hexagon wrench 【1 piece】



- ④ Tie wrap 【4 pieces】



## About bulb replacement

### WARNING

- When replacing the LED bulb, make sure the power is turned off and then remove the battery minus (-) terminal before carrying out the replacement procedure. Not doing so may result in not only a fire hazard but possible electrocution or bodily injury. In addition, please use rubber gloves when carrying out this work process.
- Bulb replacement should be done safely on a flat surface where a wide space is available. Before replacement, stop the vehicle engine, apply the emergency brake, place the shift in neutral position, and pull out the key.

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- Make sure not to touch the base part or the area that illuminates light. Also, prevent any type of oil or dirt from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction.
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## ⚠ CAUTION

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  - Clearance sonar    • Parking assist    • Adaptive headlamp    • Lane Departure Warning
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- When this bulb/lamp is tuned on, there is a possibility that noise interference may influence the radio or other such devices. Please note that this is not a malfunction of any kind.
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### [1] Replacement procedure

※ The installation work may be easier with parts, such as the lamps, front bumpers or front grill removed. Remove such parts before installation as deemed necessary.

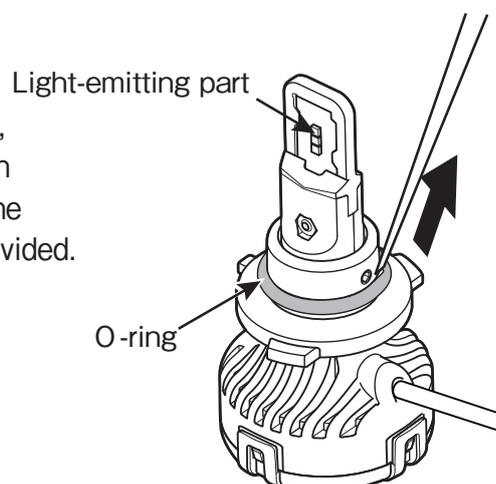
- (1) Before starting the installation work, refer to the vehicle's installation manual and verify the place where the bulb will be installed and carry out the installation.
- (2) First verify that the bulb is currently installed on the vehicle. Replace the O-rings as deemed necessary.

**HB4/HIR2 : Black O-ring (The O-ring is installed on the LED bulb)**  
**HB3/HIR1 : Red O-ring (Part ②)**

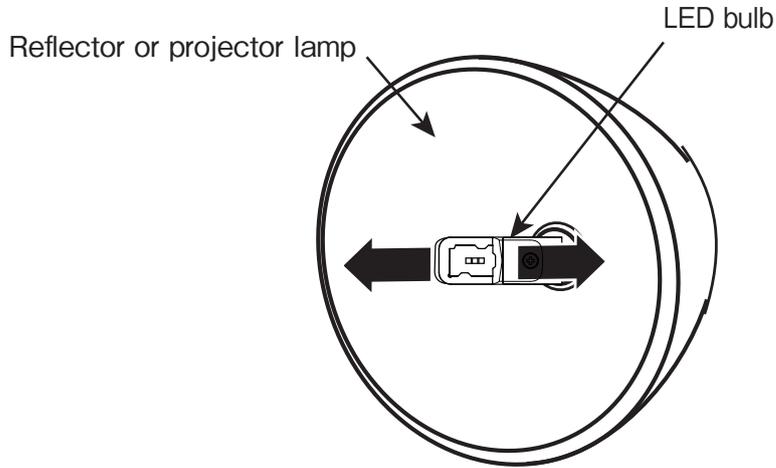
#### Procedures for replacing the O-rings

If it is necessary to replace the O-ring, use a tool with the thin, narrow end to remove the O-ring as shown in the illustration on the right. Select the O-ring that matches the bulb type using the list above. Set the new O-ring into the same groove that is provided.

- ※ When carrying out the replacement process, do not touch the illuminating part of the LED bulb with your bare hands.

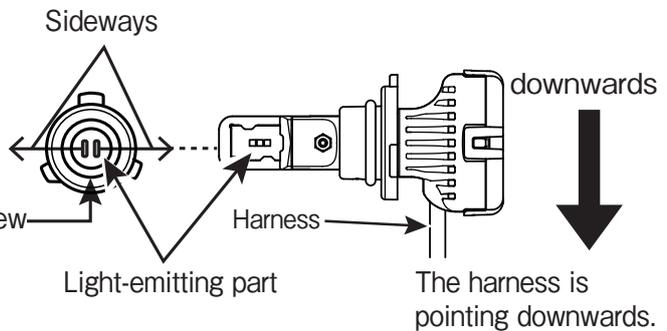
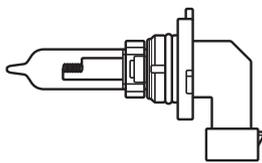


- (3) Insert PIAA LED bulb to lamp unit. The LED chip at 3 O'clock / 9 O'clock positions is the correct mounting angle. If the LED chips are not at correct position, remove the bulb from lamp and refer to page 6 "Adjusting the position of the light-emitting section"



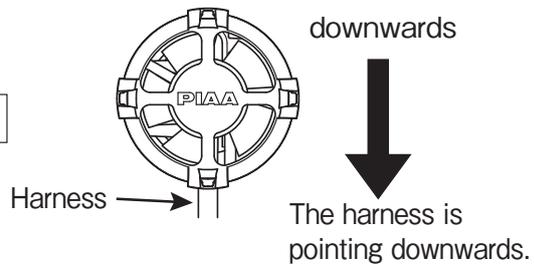
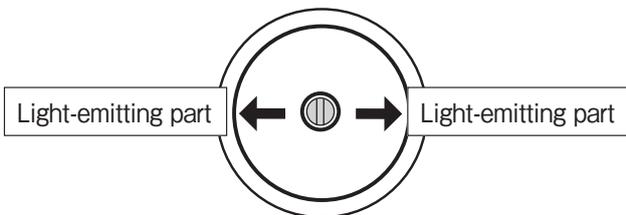
Original bulb installation direction

LED bulb installation direction



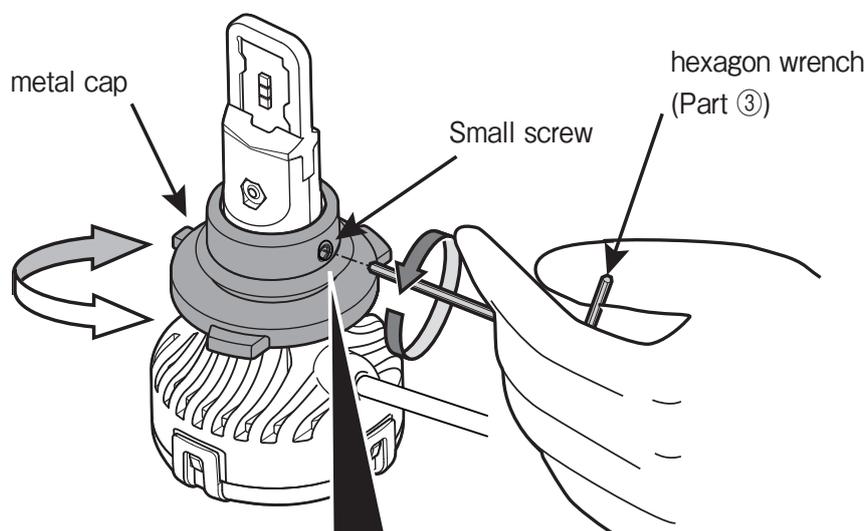
View of diagram directly from the front

bottom



### Adjusting the position of the light-emitting section

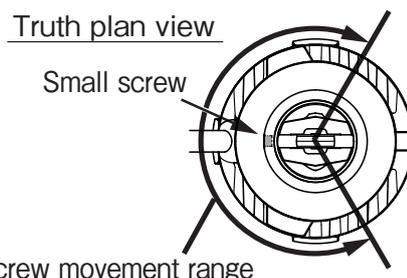
Use the hexagon wrench (part ③) that is attached and loosen the set screw on the LED bulb (part ①) by turning it half way to a full turn. This will allow you to adjust the metal cap. After adjustment, tighten the set screw and fix the metal cap in place.



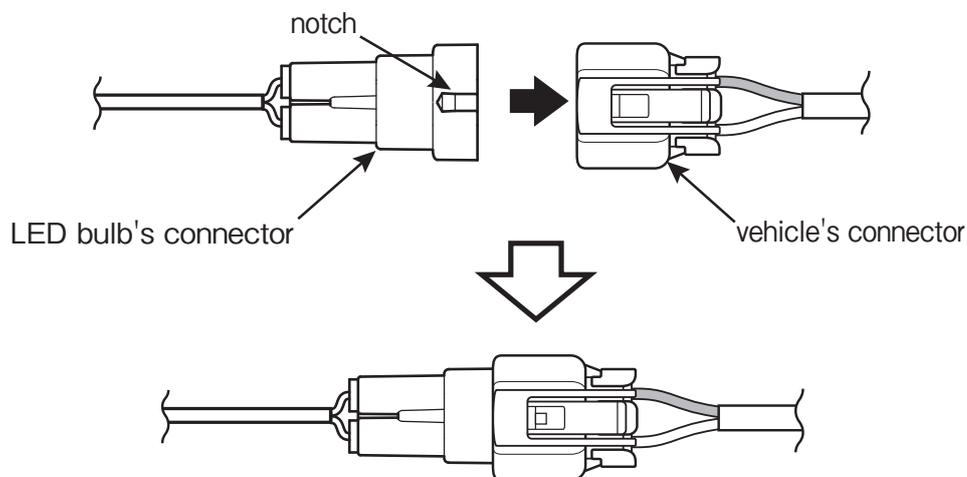
The metal cap will move when the set screw is loosened one half to full turn.

### **⚠ CAUTION**

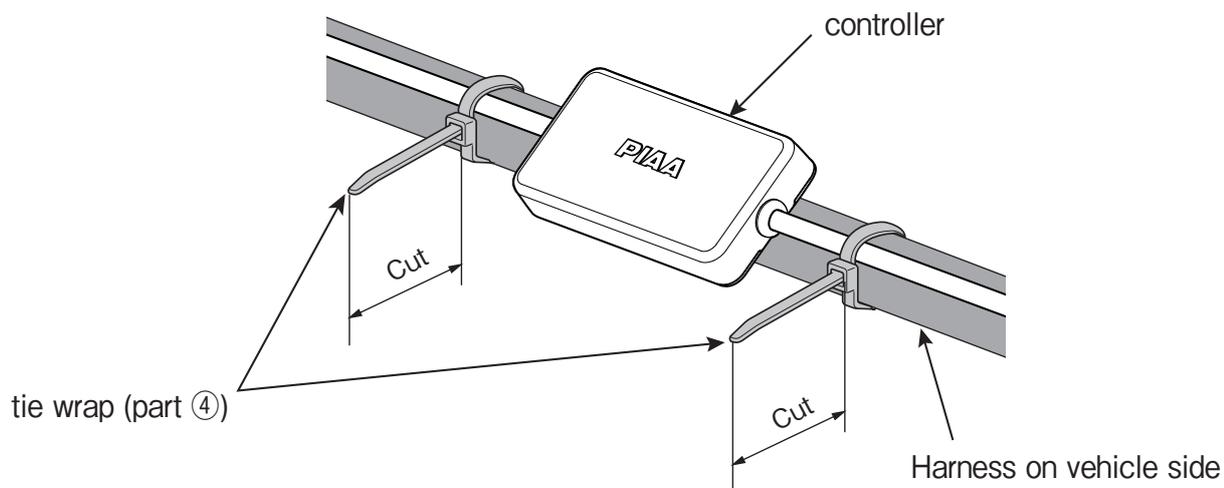
- Do not loosen the set screw more than one full turn because if the set screw is loosened too much it will cause it to come off.
- As shown in the illustration below, the movement range of the metal cap is limited. If the set screw is loosened too much, the metal cap will turn and subsequently exceed the movement range. If the set screw is tightened while in that position, the setting position of the metal and LED bulb will misalign and the set screw will pop out. If this happens, the bulb itself cannot be installed into the lamp unit. Therefore be careful not to loosen the screw more than one full turn.
- If you tighten the set screw too strongly when setting it into position it may damage the set screw as well as the LED bulb. Therefore use the short end of the hexagon wrench to carefully tighten it in place.



- (4) Connect the vehicle's connector to the LED bulb's connector and make sure the lamp lights up.



- (5) Fix the controller in place on the vehicle side using the tie wraps provided (part ④).



- (6) Check that the LED bulb lights up properly and make sure the light beam is not set too high or too low. If the light beam is not properly aligned, make the necessary adjustments.

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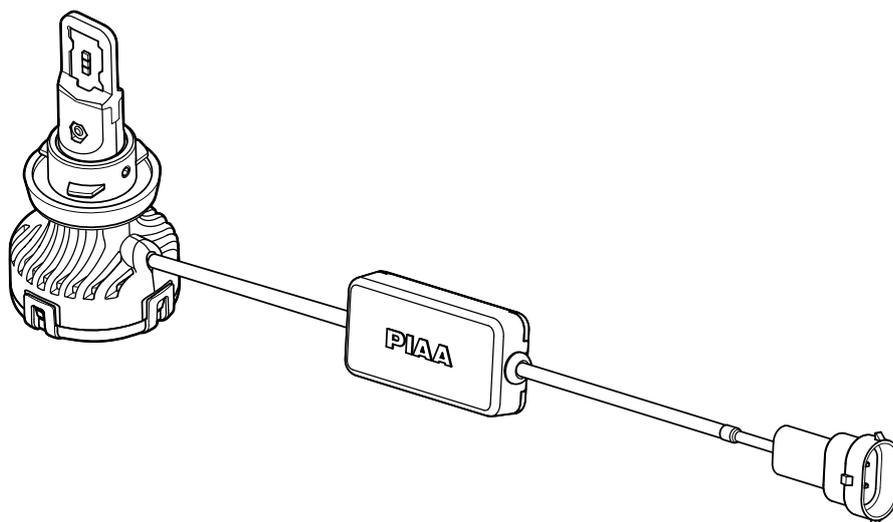
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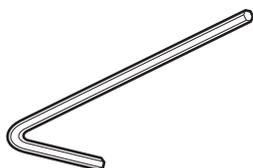
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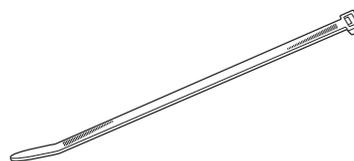
① LED bulb (H8/H9/H11/H16 type) 【2 pieces】



② Hexagon wrench 【1 piece】



③ Tie wrap 【4 pieces】



## About bulb replacement

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- Make sure not to touch the base part or the area that illuminates light. Also, prevent any type of oil or dirt from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction.
- Never turn the switch to "ON" when the LED bulb and the bulb connector are not connected.
- Make sure to prevent moisture from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction. If moisture is present, let it dry out thoroughly before use.
- Do not yank on the harness when disassembling. Doing so may damage the harness leading to overheating and potential failure.
- Be careful not to lose the original bulbs by keeping them in a safe place after removal.
- Verify the position of the product as well as the metal base of the connector. Check the proper direction and the install it securely.
- In the case of connector or terminal desorption, hold the connector terminal and straighten it out. Please note that if excessive force is applied to the terminal it may break or it may no longer connect. As a result it may cause damage leading to overheating and potential failure.
- Make sure not to apply excessive force to the light emitting part. If this part is damaged, it may cause a lighting malfunction. Please handle this product with extreme care.

## Precautions for Use

### WARNING

- Do not touch the LED bulb directly as it is extremely hot when it is illuminated and also retains considerable heat immediately after turning it off.
- Do not look directly at the lamp for extended periods of time while it is illuminated. This may cause pain to the eyes and may cause adverse effects to your eyesight.

## ⚠️ WARNING

- Do not disassemble or modify the unit in any way. Doing so may cause damage, fire or result in bodily injury.
- If there is abnormal vibration or sound when the vehicle is in motion, immediately stop the vehicle in a safe location and inspect the vehicle.
- Keep the product out of reach of infants. Otherwise infants may swallow or break the product, leading to injury.
- When the lamp is lit, the lens becomes hot. Do not wash the vehicle while the lights are on or immediately after turning them off.

## ⚠️ CAUTION

- This product is for 12V vehicles. Check the bulb type before use. Do not mount or use the product for different types.
- This product can be installed in lamps that use a H8/H9/H11/H16 bulb. Before replacing the bulb with the new one, make sure to check the markings on the old bulb. Make sure there is no problem before continuing.
- On some vehicles (including imported models) a warning lamp may go on indicating that the bulb has burned out or some other type of abnormal indication may occur. This phenomenon is common to LED products. In addition, in order for the system to sense that a bulb has burned out, a minute amount of electric voltage continues to flow even when the switch is turned off. Therefore, please be aware beforehand that when the bulb is replaced, the LED bulb may light up slightly but this is not a product malfunction. (The amount of voltage that is consumed when the LED lights up is minimal. The amount is equal to what is used to power the vehicle's clock and will not lead to a sudden drop in battery power.)
- Because LEDs have a different luminescence process from H.I.D. or halogen bulbs, even if the light color is the same it may look different when seen from a human eye. In addition, depending on the lamp setting, the light color may change. (Even when installing a bulb with the same color temperature in a lamp housing, the color variation may vary.)
- With regards to this bulb, turn on the light after switching the engine's ignition to the "ON" position. In the case of hybrid engines, switch the engine's ignition to the "READY-ON" position. (If the engine's ignition indicates "Engine-OFF" or in the case of hybrid vehicles, "READY-OFF", the light may not turn on in some cases. The light will go on normally if the ignition indication reads "Engine-ON" or "READY-ON")
- When using this product in vehicles that have idling stop systems or have weak battery power, the light may fail to light up or may flicker when starting the engine.
- If this product is installed and used in a lamp fitting that has deteriorated after extended use, the functional performance of this product may not have the originally intended effect. As a result, there is a possibility that it may not successfully pass the required automobile inspection. If this is the case, replace it with the original bulb.
- When installing this product on vehicles that have "corner sensors" (sonar), there is a possibility that these type of sensors may not operate properly. Make sure to install the controller approximately 20cm or more away from the sensor.

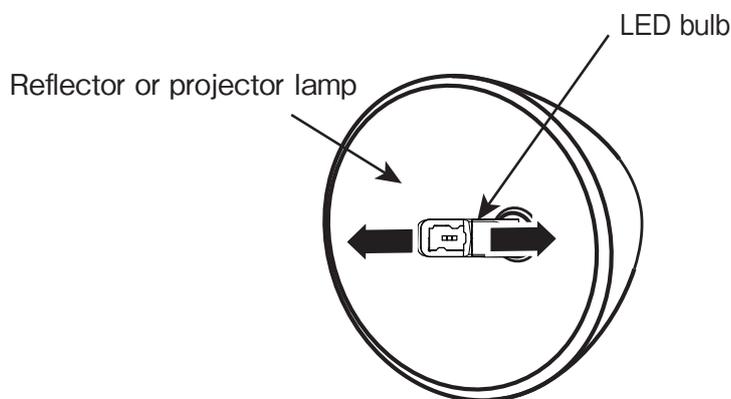
 **CAUTION**

- Below features to the vehicle are designed based on usage of original light bulb. Replacement to LED light bulb may cause malfunction of these functions. If these functions fail, stop using the LED bulb and replace them back to original bulb.
  - Automatic Brake,    • Adaptive Cruise Control,    • Advanced Safety Vehicle (ASV)
  - Clearance sonar    • Parking assist    • Adaptive headlamp    • Lane Departure Warning
  - Automatic high beam    • Other systems which use: infrared laser, Camera, ultrasonic sound wave, millimeter-wave radar
- When this bulb/lamp is tuned on, there is a possibility that noise interference may influence the radio or other such devices. Please note that this is not a malfunction of any kind.
- During heavy rain or when putting the vehicle through a car wash, condensation may build up inside the lamp due to the difference in temperature inside and outside the lamp. Please note that it will not affect the overall function of the lamp.

# 【1】 Replacement procedure

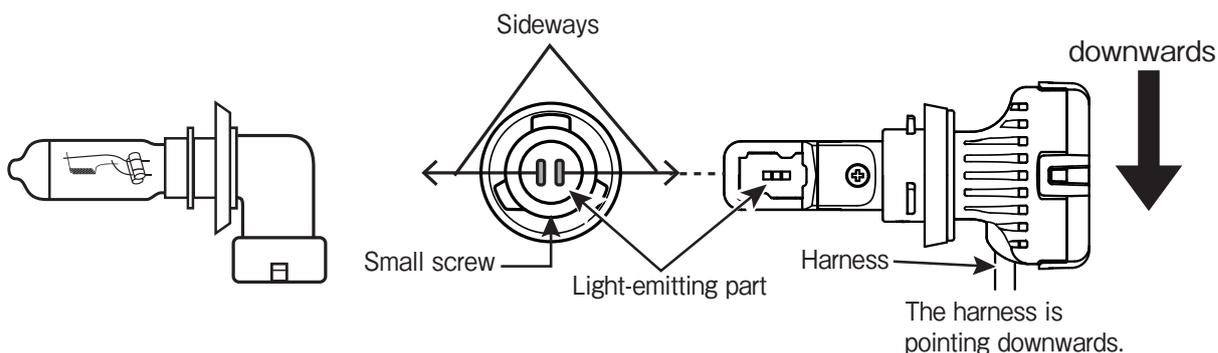
※ The installation work may be easier with parts, such as the lamps, front bumpers or front grill removed. Remove such parts before installation as deemed necessary.

- (1) Refer to the vehicle's user manual to verify the location of the original bulbs, and remove them.
- (2) Insert PIAA LED bulb to lamp unit. The LED chip at 3 O'clock / 9 O'clock positions is the correct mounting angle. If the LED chips are not at correct position, remove the bulb from lamp and refer to page 6 "Adjusting the position of the light-emitting section"



Original bulb installation direction

LED bulb installation direction



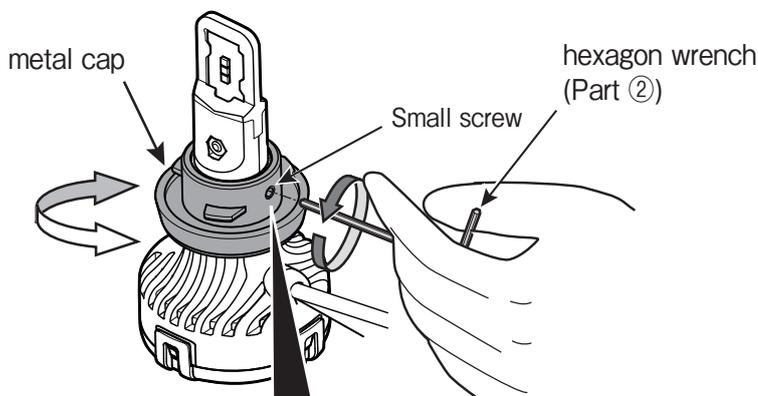
View of diagram directly from the front

bottom



### Adjusting the position of the light-emitting section

Use the hexagon wrench (part ②) that is attached and loosen the set screw on the LED bulb (part ①) by turning it half way to a full turn. This will allow you to adjust the metal cap. After adjustment, tighten the set screw and fix the metal cap in place.

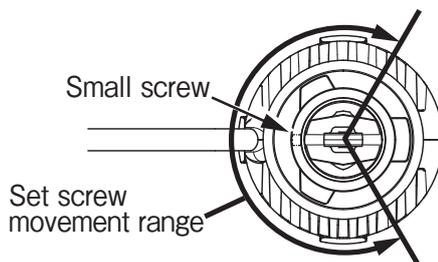


The metal cap will move when the set screw is loosened one half to full turn.

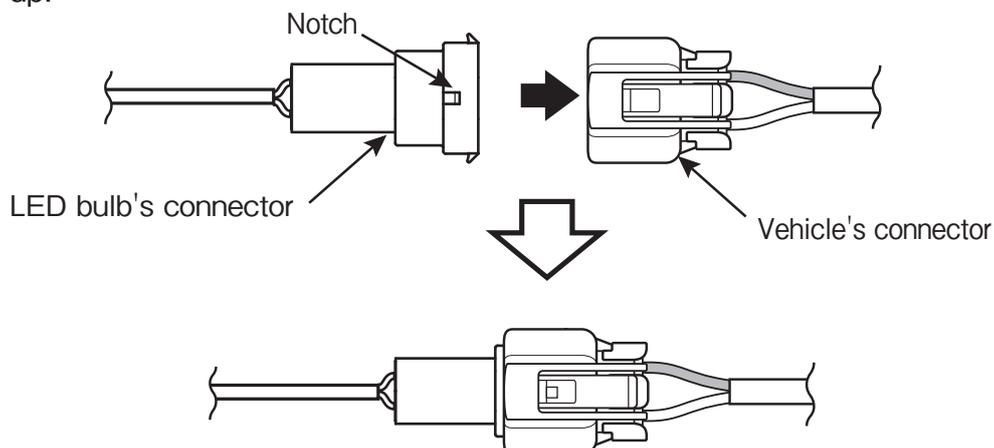
### CAUTION

- Do not loosen the set screw more than one full turn because if the set screw is loosened too much it will cause it to come off.
- As shown in the illustration below, the movement range of the metal cap is limited. If the set screw is loosened too much, the metal cap will turn and subsequently exceed the movement range. If the set screw is tightened while in that position, the setting position of the metal and LED bulb will misalign and the set screw will pop out. If this happens, the bulb itself cannot be installed into the lamp unit. Therefore be careful not to loosen the screw more than one full turn.
- If you tighten the set screw too strongly when setting it into position it may damage the set screw as well as the LED bulb. Therefore use the short end of the hexagon wrench to carefully tighten it in place.

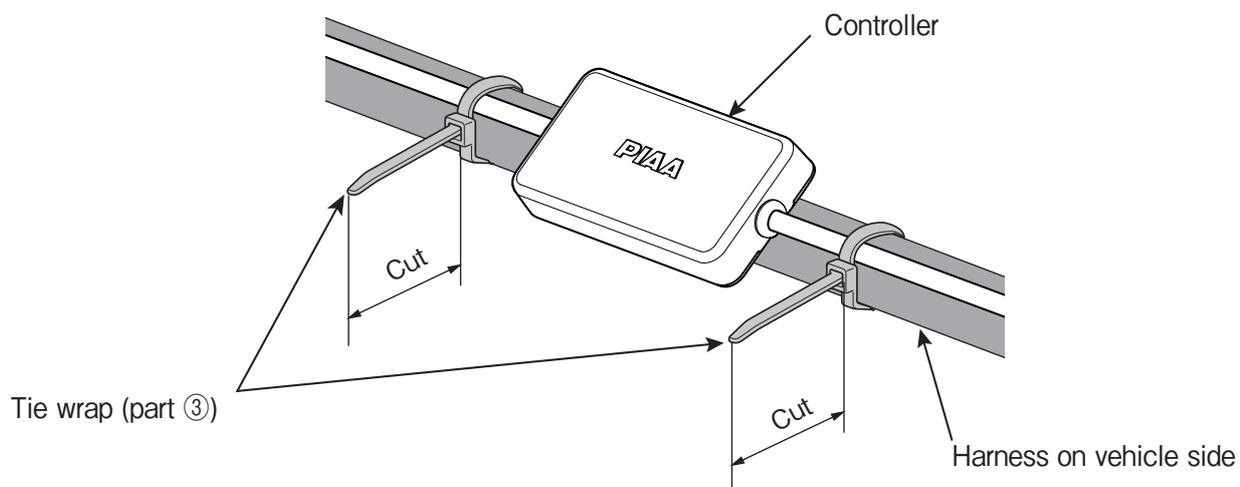
Truth plan view



- (3) Connect the vehicle's connector to the LED bulb's connector and make sure the lamp lights up.



(4) Fix the controller in place on the vehicle side using the tie wraps provided (part ③).



(5) Check that the LED bulb lights up properly and make sure the light beam is not set too high or too low. If the light beam is not properly aligned, make the necessary adjustments.

# PIAA

## Installation Manual for LED Bulbs (Type H7)

Thank you very much for purchasing PIAA product. Read this instruction manual thoroughly for proper use of the product. After completing your installation, please keep this manual for future reference.

For customers ..... Please forward this manual to the next owner.

For installation service agents ..... Be sure to hand over this instruction manual to the customer after installation.

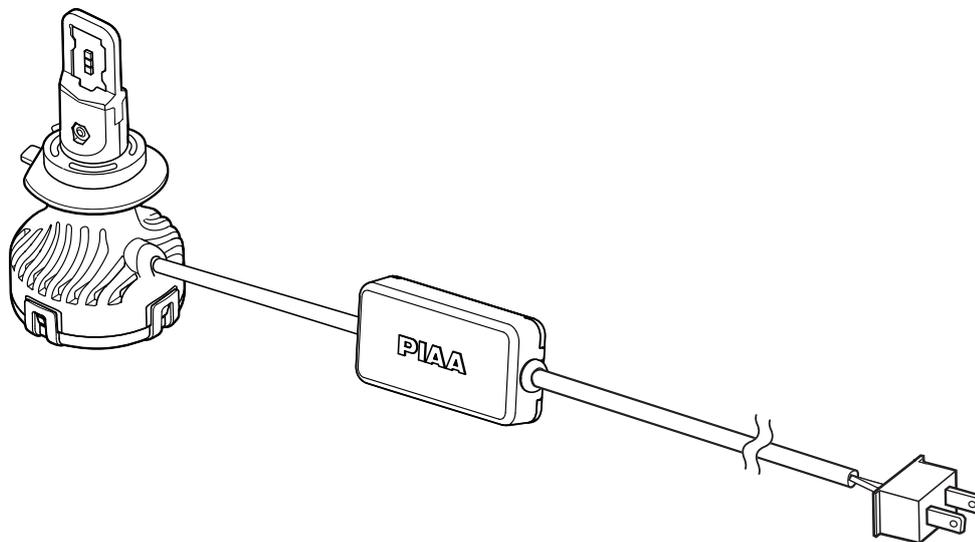
※ ⚠ **CAUTION** marks and ⚠ **WARNING** marks in this manual indicate important notices for installing this product. Be sure to follow these notices in order to ensure safe and reliable work.

⚠ **CAUTION** Indicates procedures or situations that may cause bodily harm if used improperly.

⚠ **WARNING** Indicates items that may cause damage or abnormality to products if used improperly.

### Contents

- ① LED bulb (H7 type) 【2 pieces】



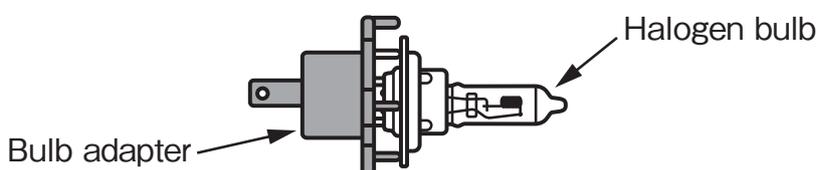
## About bulb replacement

### ⚠ WARNING

- When replacing the LED bulb, make sure the power is turned off and then remove the battery minus (-) terminal before carrying out the replacement procedure. Not doing so may result in not only a fire hazard but possible electrocution or bodily injury. In addition, please use rubber gloves when carrying out this work process.
- Bulb replacement should be done safely on a flat surface where a wide space is available. Before replacement, stop the vehicle engine, apply the emergency brake, place the shift in neutral position, and pull out the key.

### ⚠ CAUTION

- Before installing the LED bulb, make sure there is no visible damage or that there is any evidence of it being dropped. If any part is broken or damaged, it may cause it to illuminate abnormally.
- Please handle the bulb with care. Excess force may damage the product.
- When installing the bulb, make sure to firmly connect the bulb connector and also verify that the rubber cap is installed. In addition, make sure to install it so that the harness section (electric wire) is not snagged in the cap or other sections.
- As a result of replacing the bulb, the axis of the light may become misaligned. Therefore, after replacement, check the lamp position and make necessary adjustments to the alignment.
- Make sure not to touch the base part or the area that illuminates light. Also, prevent any type of oil or dirt from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction.
- Never turn the switch to "ON" when the LED bulb and the bulb connector are not connected.
- Make sure to prevent moisture from adhering to the product. If the light is turned on in this condition, it may cause a lighting malfunction. If moisture is present, let it dry out thoroughly before use.
- Do not yank on the harness when disassembling. Doing so may damage the harness leading to overheating and potential failure.
- Be careful not to lose the original bulbs by keeping them in a safe place after removal.
- Verify the position of the product as well as the metal base of the connector. Check the proper direction and the install it securely.
- In the case of connector or terminal desorption, hold the connector terminal and straighten it out. Please note that if excessive force is applied to the terminal it may break or it may no longer connect. As a result it may cause damage leading to overheating and potential failure.
- Make sure not to apply excessive force to the light emitting part. If this part is damaged, it may cause a lighting malfunction. Please handle this product with extreme care.
- This product cannot be used on lamps installed with a bulb adapter.



## Precautions for Use

### WARNING

- Do not touch the LED bulb directly as it is extremely hot when it is illuminated and also retains considerable heat immediately after turning it off.
- Do not look directly at the lamp for extended periods of time while it is illuminated. This may cause pain to the eyes and may cause adverse effects to your eyesight.
- Do not disassemble or modify the unit in any way. Doing so may cause damage, fire or result in bodily injury.
- If there is abnormal vibration or sound when the vehicle is in motion, immediately stop the vehicle in a safe location and inspect the vehicle.
- Keep the product out of reach of infants. Otherwise infants may swallow or break the product, leading to injury.
- When the lamp is lit, the lens becomes hot. Do not wash the vehicle while the lights are on or immediately after turning them off.

### CAUTION

- This product is for 12V vehicles. Check the bulb type before use. Do not mount or use the product for different types.
- This LED bulb kit is compatible with H7 type halogen bulb. Ensure original bulb is H7 socket.
- On some vehicles (including imported models) a warning lamp may go on indicating that the bulb has burned out or some other type of abnormal indication may occur. This phenomenon is common to LED products. In addition, in order for the system to sense that a bulb has burned out, a minute amount of electric voltage continues to flow even when the switch is turned off. Therefore, please be aware beforehand that when the bulb is replaced, the LED bulb may light up slightly but this is not a product malfunction. (The amount of voltage that is consumed when the LED lights up is minimal. The amount is equal to what is used to power the vehicle's clock and will not lead to a sudden drop in battery power.)
- Because LEDs have a different luminescence process from H.I.D. or halogen bulbs, even if the light color is the same it may look different when seen from a human eye. In addition, depending on the lamp setting, the light color may change. (Even when installing a bulb with the same color temperature in a lamp housing, the color variation may vary.)
- With regards to this bulb, turn on the light after switching the engine's ignition to the "ON" position. In the case of hybrid engines, switch the engine's ignition to the "READY-ON" position. (If the engine's ignition indicates "Engine-OFF" or in the case of hybrid vehicles, "READY-OFF", the light may not turn on in some cases. The light will go on normally if the ignition indication reads "Engine-ON" or "READY-ON")
- When using this product in vehicles that have idling stop systems or have weak battery power, the light may fail to light up or may flicker when starting the engine.

 **CAUTION**

- If this product is installed and used in a lamp fitting that has deteriorated after extended use, the functional performance of this product may not have the originally intended effect. As a result, there is a possibility that it may not successfully pass the required automobile inspection. If this is the case, replace it with the original bulb.
- When installing this product on vehicles that have "corner sensors" (sonar), there is a possibility that these type of sensors may not operate properly. Make sure to install the controller approximately 20cm or more away from the sensor.
- Below features to the vehicle are designed based on usage of original light bulb. Replacement to LED light bulb may cause malfunction of these functions. If these functions fail, stop using the LED bulb and replace them back to original bulb.
  - Automatic Brake,    • Adaptive Cruise Control,    • Advanced Safety Vehicle (ASV)
  - Clearance sonar    • Parking assist    • Adaptive headlamp    • Lane Departure Warning
  - Automatic high beam    • Other systems which use: infrared laser, Camera, ultrasonic sound wave, millimeter-wave radar
- When this bulb/lamp is tuned on, there is a possibility that noise interference may influence the radio or other such devices. Please note that this is not a malfunction of any kind.
- During heavy rain or when putting the vehicle through a car wash, condensation may build up inside the lamp due to the difference in temperature inside and outside the lamp. Please note that it will not affect the overall function of the lamp.

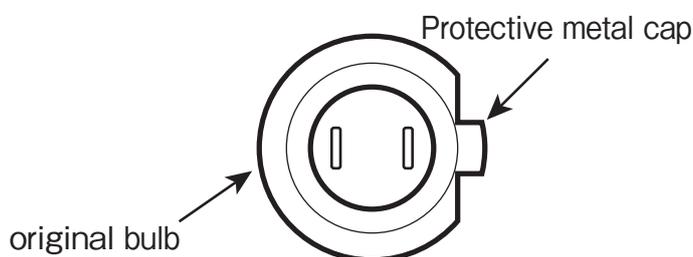
# 【1】 Replacement procedure

※ The installation work may be easier with parts, such as the lamps, front bumpers or front grill removed. Remove such parts before installation as deemed necessary.

(1) Check the direction how the original bulb is installed to headlamp.  
 PIAA LED has 2 inserting tabs (A / B). The correct tab selection is based on the direction how the original bulb is inserted to headlamp.

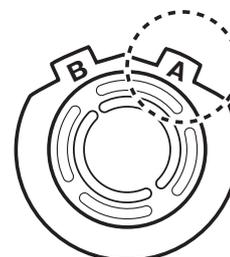
■ If Original bulb is inserted sideways into headlamp

Illustration showing the H7 bulb from the rear



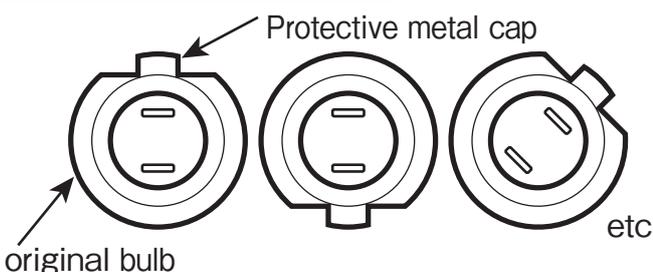
Select Tab **[A]** printed on LED bulb's metal cap

backside of LED bulb's protective metal cap



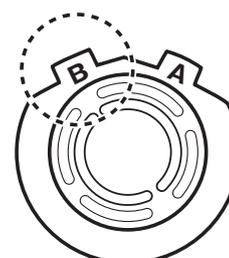
■ If Original bulb is inserted other than sideways into headlamp

Illustration showing the H7 bulb from the rear



Select Tab **[B]** printed on LED bulb's metal cap

backside of LED bulb's protective metal cap



(2) Check if the original bulb is fixed to headlamp using a metal bulb spring or not.

■ If original bulb is fixed with a bulb spring . . . . . Proceed to page 6

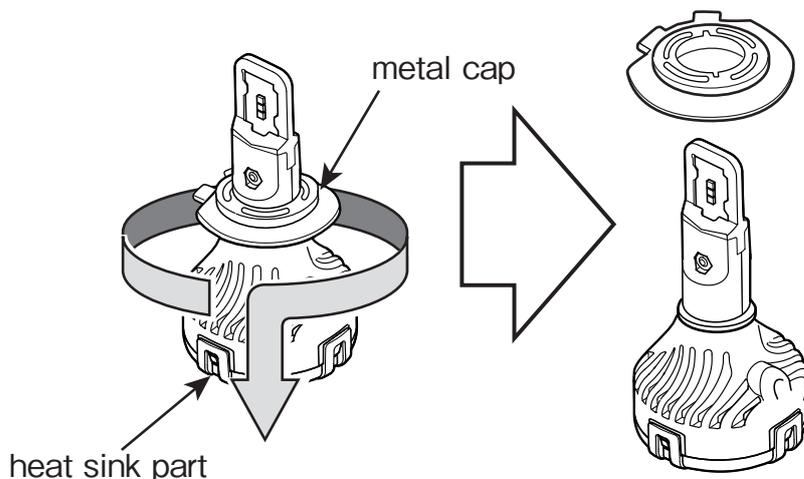
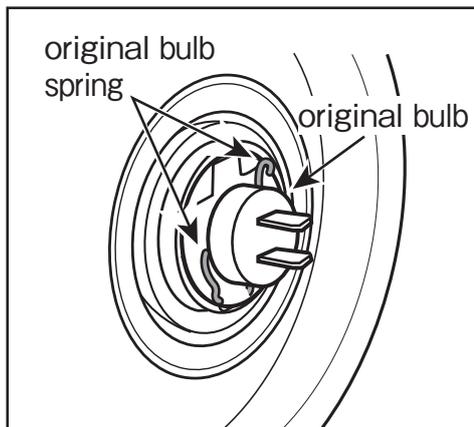
■ If original bulb is not fixed with a bulb spring . . . . . Proceed to below

■ If original bulb is not fixed with a bulb spring

- ① Refer to vehicle's owner's manual and remove the original bulb from headlamp.
- ② Insert and secure LED bulb to headlamp using the tab (**A** or **B**) selected at step (1).
- ③ Proceed to Page 7 (3)

■ **If original bulb is fixed with a bulb spring**

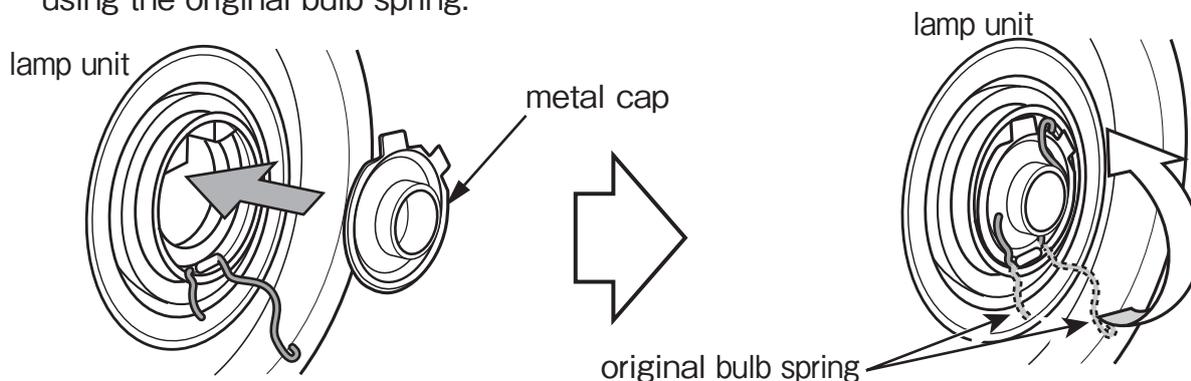
- ① Refer to vehicle's owner's manual and remove the original bulb from headlamp.
- ② Hold the metal cap on the LED bulb assembly firmly and then turn the heat sink part as shown in the illustration below.



**ADVICE**

- Be extremely careful when pulling the metal cap section out of the LED bulb, because this section is very thin. If it is held too tightly, there is a danger that you may cut your fingers. It may be a good idea to hold the metal cap section with a soft cloth when carrying out the work procedures.

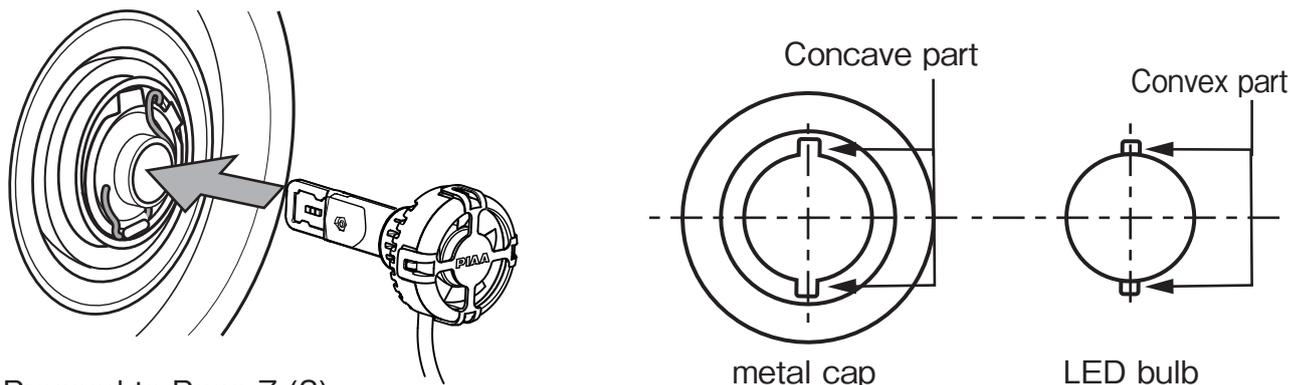
- ③ Insert the tab (A or B) selected at procedure (1) and secure the protective metal cap using the original bulb spring.



**CAUTION**

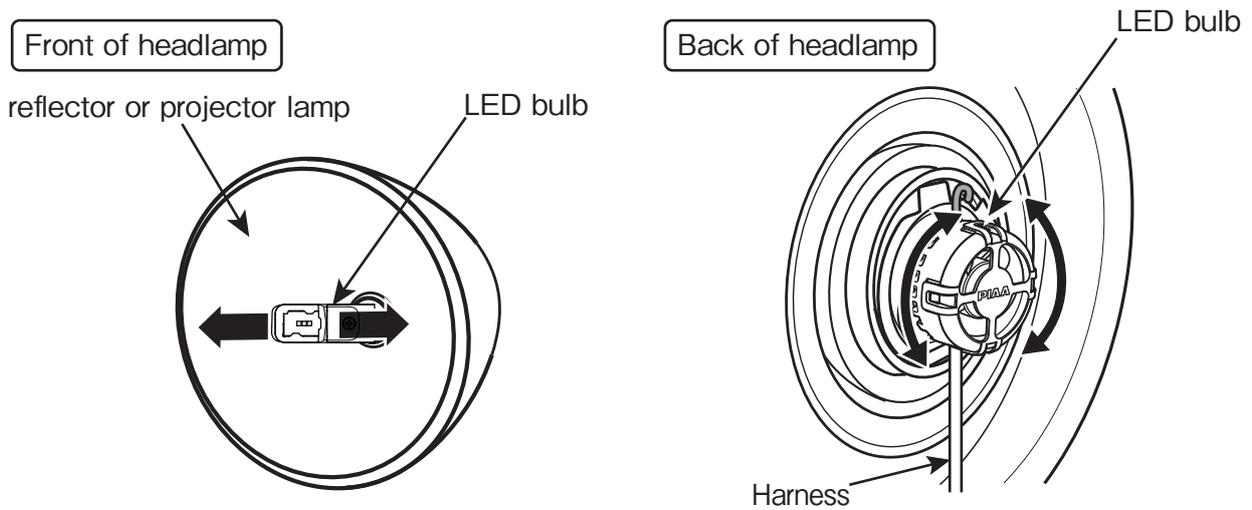
- When installing the metal cap onto the lamp unit, be very careful not to drop the cap into the lamp unit.

- ④ Insert the LED bulb's convex part to metal cap's concave part

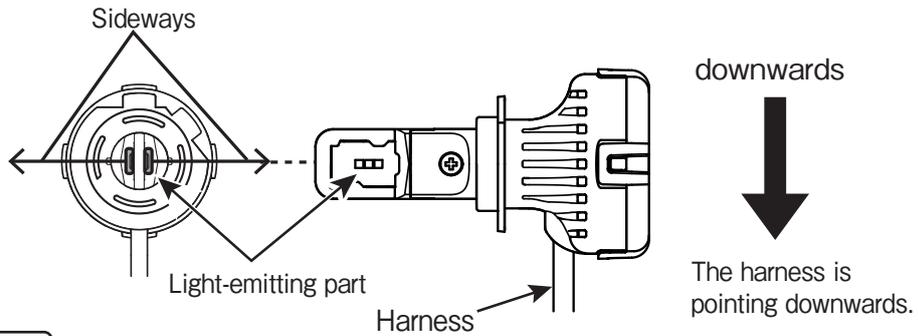


- ⑤ Proceed to Page 7 (3).

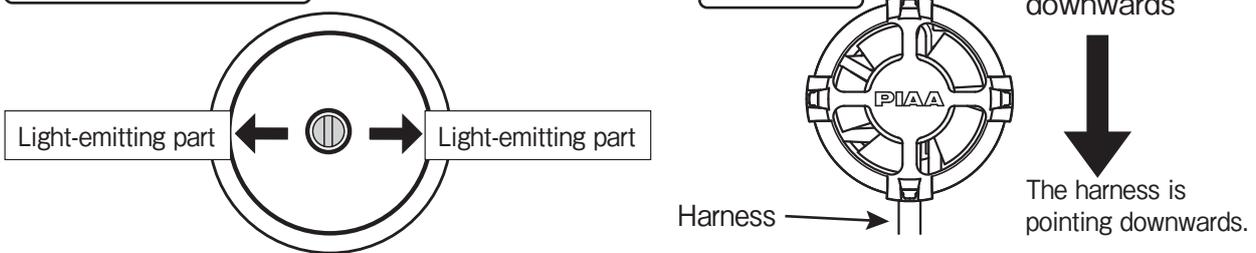
(3) Rotate and adjust the bulb position. The harness pointing down is the correct angle to install LED bulb.



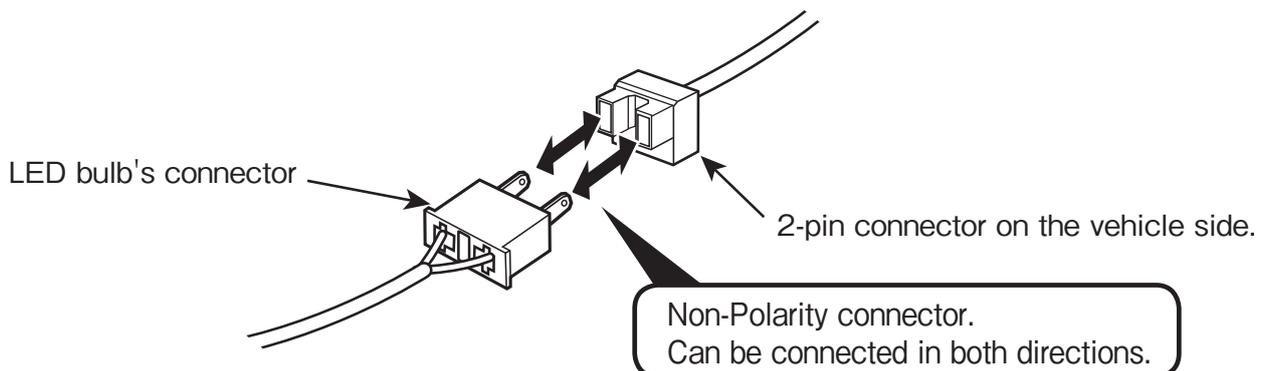
LED bulb installation direction



**View of diagram directly from the front**



(4) Attach the vehicle's connector to LED controller's connector. Reconnect the vehicle's battery and test the function of newly installed LED bulb.



- (5) Check that the LED bulb lights up properly and make sure the light beam is not set too high or too low. If the light beam is not properly aligned, make the necessary adjustments.