PIAA

Installation Manual for LED Performance 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.

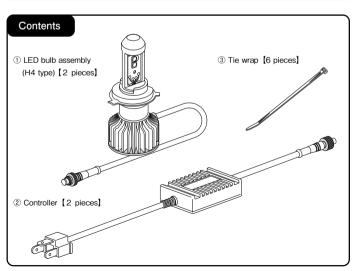
For customers Please forward this manual to the next owner.

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

A CAUTION marks and A 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.



Notice to customers: Carefully read through the instructions before using this product.

- This product is a 12V bulb for 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 abnormality. (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 as a headlamp and for lamp, the color variation may vary.)
- With regards 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 old 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.

Precautions for Use

↑ WARNING

- Do not look directly at the operating lamp for any period of time; this may cause serious eye injury.
- Please do not disassemble or modify the product. Such actions may damage the product or may cause fire and/or bodily injury.

Precautions for Use

⚠ WARNING -

- 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 extremely hot. Do not wash the vehicle while the lights are on or immediately after turning them off.

- A CAUTION-

- 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 is will not
 affect the overall function of the lamp.
- Do not leave the lamp on for an extended period of time while the vehicle is stopped.

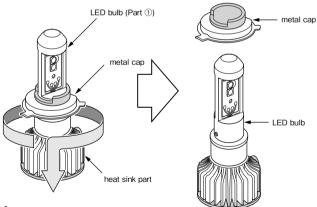
Precautions for Replacement

- ⚠ CAUTION-

- 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.
- 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.
- Bulb replacement should be done safely in a flat place where a wide space is available.
 Before replacement, stop the vehicle engine, apply the side brake, place the shift in parking or neutral position, and pull out the key.
- 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.

[1] Replacement procedure

- When installing this product on some vehicles, the installation work may be easier if parts such as the headlamps, front bumpers or front grill are removed. Remove such parts before installation as deemed necessary.
- 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.
 - ** Please note that the original rubber cap will be reused after the new LED bulb is installed.
 original rubber cap
- (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.



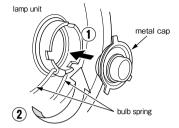
∜ADVICE

• 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.

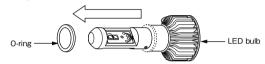
(3) Install the metal cap to the vehicle's lamp unit (①). Fix it firmly in place using the bulb spring (②).

A CAUTION

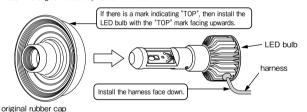
 When installing the metal cap section to the main body of the lamp, be very careful not to drop the cap inside the housing.



Remove the O-ring from the LED bulb.

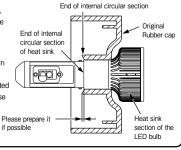


(5) Install the original rubber cap to the LED bulb.



Cross section of LED bulb assembly viewed from the side

- As shown on the right side of the illustration, push the rubber cap all the way in so that the circular part of the heat sink lines up evenly with the inside end of the rubber cap.
- 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
 Ple deteriorate.
 Ple



- (6) Take the O-ring that was removed in Step (4) and install it to the LED bulb.
- (7) Install the metal cap section to the LED bulb following procedures (Steps ① to ⑥) as shown in the following illustrations.

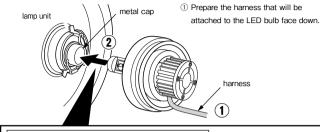
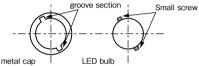
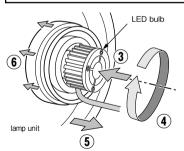


Illustration of LED bulb assembly viewed from the back



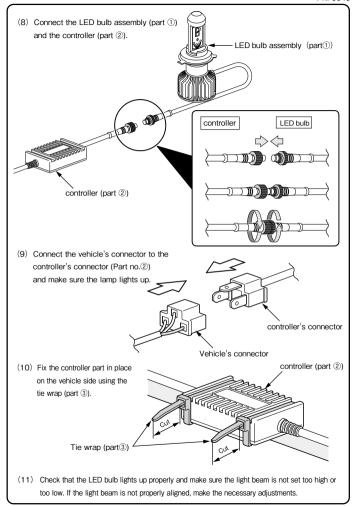
② Insert the small screw part of the LED bulb into the depressed groove section of the metal cap.



- 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.
- S Verify the LED bulb is firmly locked in place. If it comes loose, repeat Steps3 and 4.
- ⑥ Insert the original rubber cap into the headlamp unit.

⚠ 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.



[2] Regarding car inspections

- This product complies with JIS standards (Japanese Industrial Standards) D5500 and is set and produced within the white light region defined by the automotive headlamp standards.
- Supplement (JIS D5500)

The values for white light defined by the JIS standards are as follows.

0.52

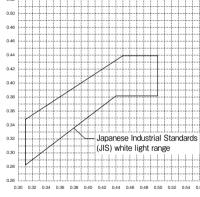
When these numbers are shown in a graph, the beam widths are indicated in the list below.

When the measurement results are within the chromaticity range specified by JIS D5500 it is determined as white light.

CIE CHROMATICITY DIAGRAM

Japanese Industrial Standards Chromaticity Range

[White] $0.500 \ge x \ge 0.310$ $y \le 0.150 + 0.640 \times$ $y \ge 0.050 + 0.750 \times$ $0.440 \ge y \ge 0.382$



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