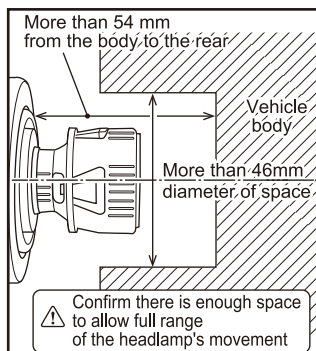


# LED Bulb installation manual (HB3/4) Type 351HLB,V313HLB

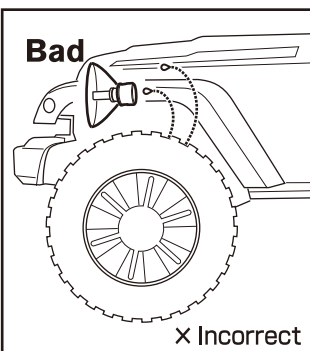
Article number :

## LED Bulb fitting

### Space around the bulb



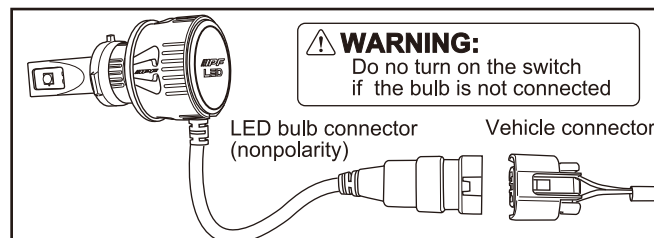
### Direct contact with water, dirt or dust



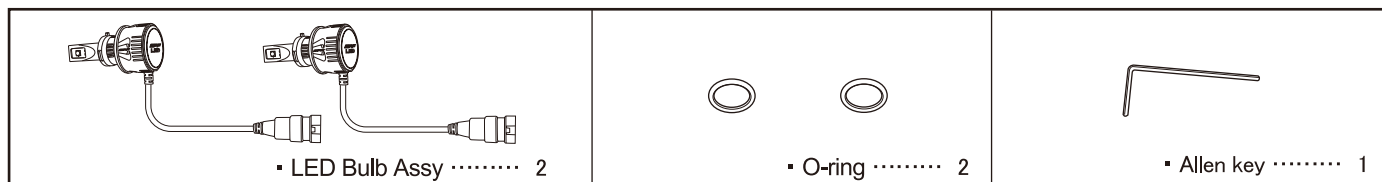
## LED bulb lighting test points ※Do it before installment

### <Test procedure>

1. Connect the new parts to the vehicle's connector
2. Turn on the lamp, Test for correct lighting.
3. Check the vehicles gauges for any warning signs.  
If no warnings, the test is finished.



## Components

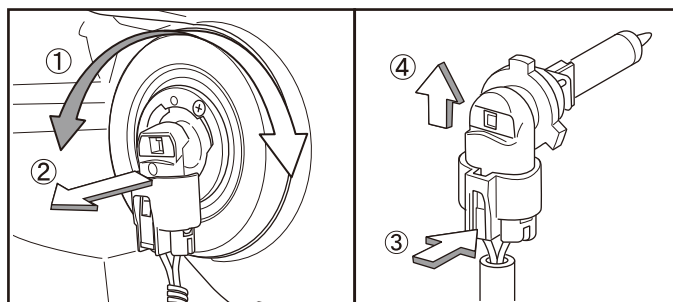


## Installation procedure

### 1 Genuine bulb check

Check the condition of the bulb's attachment.  
If the check cannot be done visually or the space is too narrow,  
please remove the headlamp unit form the vehicle.  
Refer to the vehicle's manual when changing or removing the headlamp.

### 2 Removing the bulb



Remove the bulb by referring to the figure below.

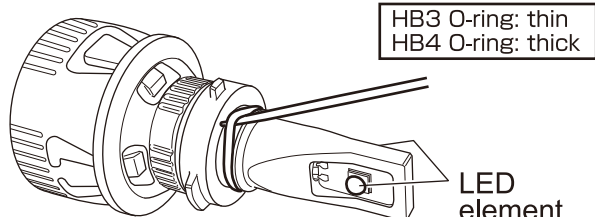
- ① Turn the bulb counter clockwise.
- ② Remove the bulb.
- ③ Push the tab to release the bulb
- ④ While still pushing the tab, pull the connector from the bulb

### ⚠ Caution

When turning the bulb. The direction depends on the vehicle or the position of the bulb.

### How to change the O-ring

Remove the HB3 O-ring with a pointed tool.  
For example, a tooth pick.  
Set the HB4 O-ring in the same groove.

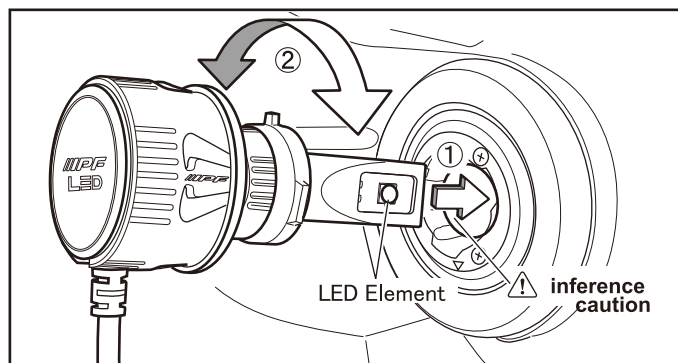


### ⚠ Caution

- When changing the bulb.  
Do not touch the LED element

The O-ring is pre-attached to the HB3 product.  
If it is the HB4 type, change the HB3 O-ring  
to the HB4 O-ring.

### 3 Installing the Bulb



Refer to the figure left.

- ① Insert the LED bulb into the headlamp aligning it with the three grooves.
- ② Turn the LED bulb clockwise to lock it into place.

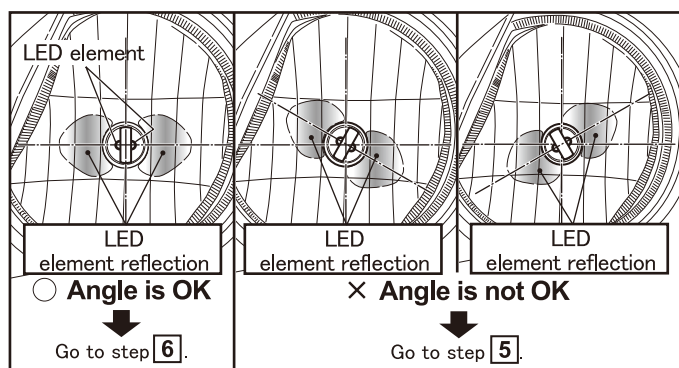
#### ⚠ Warning

Don't rotate it by excessive power.  
Also don't rotate by tool.

#### ⚠ Caution

- When turning the bulb. The direction depends on the vehicle or the position of the bulb. Install it after confirmation of vehicle installation instruction.
- When inserting the LED bulb, be careful not to hit or bump the LED element or the lamp.
- If the LED element becomes scratched, the brightness or light distribution might reduce in range and the vehicle might not meet the standard requirements in a vehicle inspection.

### 4 Angle Check



When facing the front of the vehicle, make sure the LED elements are level and the yellow LED element reflection is level too. If the LED element reflection is not level or horizontal, please go to procedure **5** and adjust the angle of attachment.

If the Led element is level, proceed to step **6**.

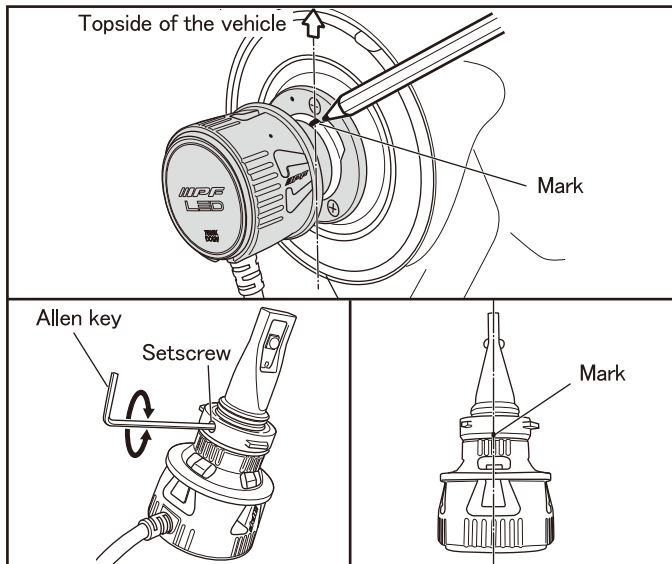
※For the projector type lamp, the element is not visible.

Use the IPF logo as a reference to check for balance.

#### ⚠ Warning

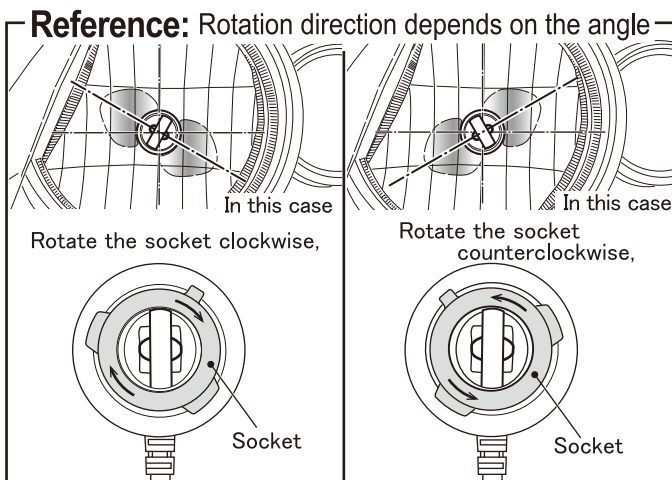
If the bulb is not level when installed, the brightness or light distribution might reduce in range and the vehicle might not meet the standard requirements in a vehicle inspection.

## 5 Angle Adjustment



If the angle is not correct, pencil a mark on the top of the bulb for reference as in the diagram. Then remove the bulb.

Using an allen key to loosen the setscrew and adjust the LED element's angle so that it lines up with the pencil mark. Erase the pencil mark, then reinstall.

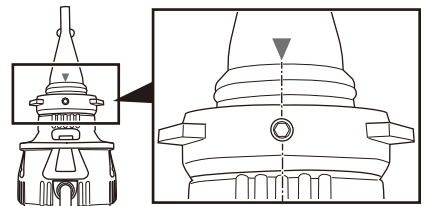


Go back to step 4 and confirm the LED position and angle.

### ⚠ Warning

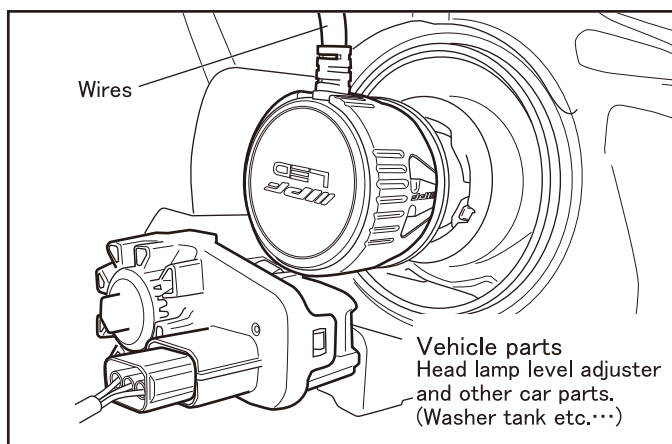
- Do not leave the setscrew too loose or too tight. This might lead to the LED bulb's failure. 1.0 to 1.5 N·m torque is recommended.

To return the primary stage



Meet the position between Setscrew and ▼ mark

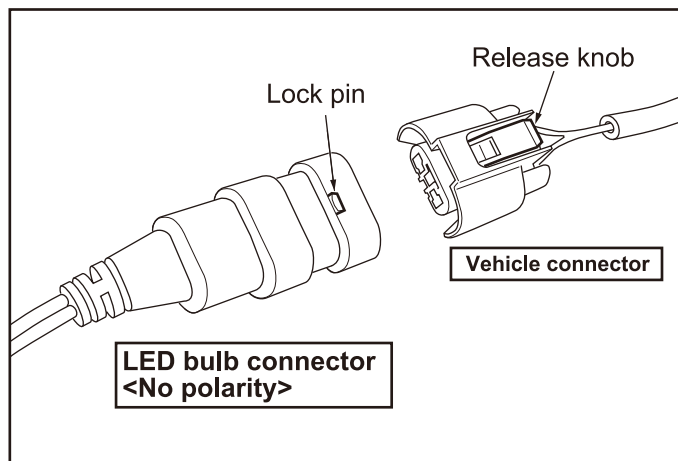
## 6 Installation Check



Confirm there is no wobbling.

If the wires are interfering with the vehicle parts, turn the bulb 180° so that the wires are on the top. The IPF logo will be upside down but this will not reduce performance.

## 7 Connecting the connector, fixing the harness



Connect the LED bulb with the vehicle's connector. Insert the connector all the way and align the lock pin. Make sure the connector is locked into place. If there is extra length in the harness, fix it into place with a standard cord clip. Leave a little slack in the harness to give room for the movement of the harness leveler. If you removed the headlamp unit, reinstall the unit now.

### ⚠ Caution

- In rare cases, the connector does not lock into place. Secure the connection with electrical tape.

## 8 Lighting check

Turn on the engine. Switch on the headlamp. Check to see if the LED bulb lights up properly.

Check to see if there is any light leaking from the bulb socket.

If needed, adjust the optical axis with headlight tester.

Excluding projector type bulbs, it's recommended to check optical axis and light distribution.

If you install the LED bulb with high beams, please make sure the high beam indicator performs properly.

### ⚠ Headlight tester measurement caution points

Results might vary when using the auto mode with the headlight tester.  
Manual mode is recommended.