

# 盲點偵測輔助系統 Blind Spot Monitoring 使用說明



**SIMTEC**

興運科技

## 一、系統功能概述

1. 盲點偵測輔助系統，以下簡稱為 **BSM**。警示功能利用雷達感知器偵測行駛於相鄰車道且位於駕駛人盲點之車輛，並透過左右後視鏡指示燈與蜂鳴器提示駕駛人該盲點區域有車輛存在。
2. 駕駛人應對行車安全負責，務必小心駕駛、注意周遭安全。
3. **BSM** 只是一種輔助功能，可提醒駕駛人盲點區域內是否有車輛存在，不可過度依賴 **BSM**。
4. 在特定情況下，**BSM** 可能失效，因此必要時駕駛人必須自行目視確認安全。

## 二、系統運作方式

### 1. BSM : Blind Spot Monitoring 盲點偵測功能

時速超過 10km 時，如車側盲點有車或物體靠近時，該側的指示燈會亮起。

### 2. LCA : Lane Change Assist 變換車道輔助功能

如指示燈亮時撥動該方向之方向燈，指示燈號會閃爍並且蜂鳴器發出警告聲三次

### 3. AOA : Active Overtake Alert 主動超車預警功能

當超越其他車輛時，該車輛進入本車盲點後，指示燈會亮起，當被超車車輛

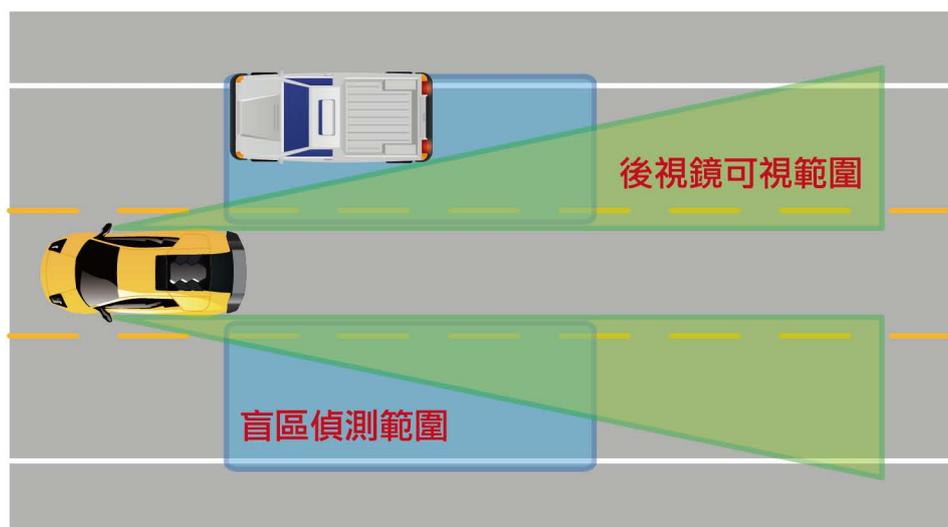
已遠離本車約 10 公尺後，指示燈會熄滅。偵測範圍示意圖如下頁：

### 4. RCTA: Rear Cross Traffic Alert 後方交叉車流警示功能

當打 R 檔時，系統會偵測與本車交叉之車流，當欲匯入的車道有車流時

，燈號會閃爍並且蜂鳴器發出聲響作為倒車出庫時預警功能。

## BSM : Blind Spot Monitoring 盲點偵測功能



當汽車兩側之鄰近車道，偶有未預警車輛進入盲區偵測範圍內時，即予以燈號警示避免遭左右來車發生碰撞

LCA : Lane Change Assist 變換車道輔助功能



當汽車準備變換車道，按下方向燈時：  
後方車輛進入偵測範圍內，即以燈號閃爍  
及蜂鳴器作動，避免遭左右來車發生碰撞

RCTA : Rear Cross Traffic Alert 後方交叉車流警示功能



當汽車準備倒車，排入 R 檔時：  
後方車輛進入偵測範圍內，即以燈號閃爍  
及蜂鳴器作動，避免遭左右來車發生碰撞

### 三、雷達安裝位置與角度

※兩個雷達分別安裝在車身後端的左右角部位（拆除保險桿後車體的左右角）

1. 事先量測後保險桿上，倒車雷達、反光片、霧燈位置與高度，雷達安裝位置須避開相關干擾物。

2. 雷達安裝高度建議為離地 35cm ~ 60cm。

3. 卸下保險桿，選好雷達不會被干擾的位置，使雷達與地面保持水平。

使用所附的角度尺來進行雷達角度之校正。雷達之插頭朝外側，

即從車後角度觀看時左側雷達的插頭方向朝左，右側雷達的插頭方向朝右。

4. 安裝雷達時須特別注意，在雷達的發射面不能有金屬物體且周圍不能有會擺動的金属物體如電線、燈殼、反光片等，否則會導致誤判。



(O) 正確安裝範例

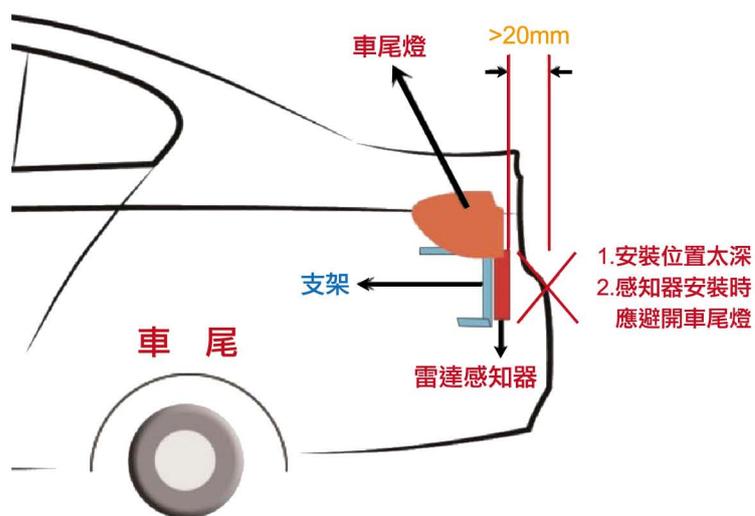
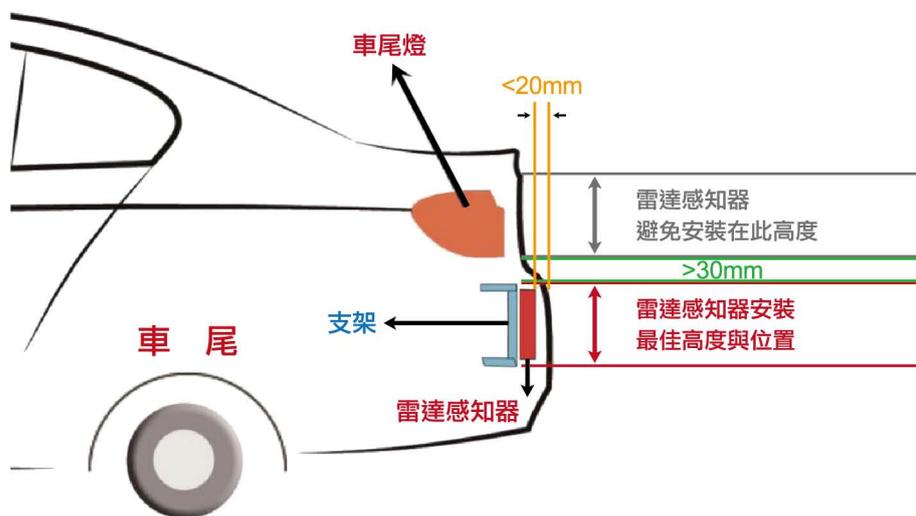


(X) 錯誤安裝範例



(X) 錯誤安裝範例

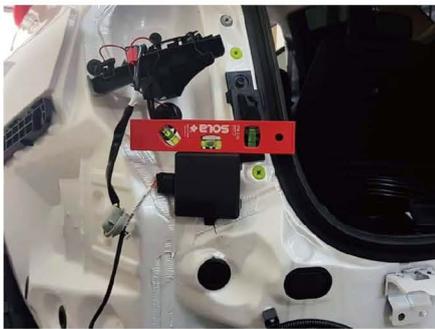
※ 雷達感知器安裝位置



#### 四、系統的安裝

1. 系統分成主線束、控制盒、左右 LED 燈號線、蜂鳴器、OBD 線與兩個雷達
2. OBD 線讀取車輛時速以達成 10KM 自動啟閉
3. OBD 線必須連結否則車輛啟動時自我檢測左邊鏡片會恆亮
4. 紅色方向燈線接左方向燈
5. 綠色方向燈線接右方向燈
6. 藍色倒車線用於讓系統倒車啟動 RCTA 功能
7. LED 燈號線連結左鏡片與右鏡片  
(通用型產品則將指示燈分別固定在車內 A 柱兩側)。
8. 蜂鳴器安裝在駕駛人能方便聽到聲音的地方。
9. 電源線:紅色線連結 ACC 正電、黑色接地線

#### 雷達感知器安裝示意範例



以水平儀確認持平



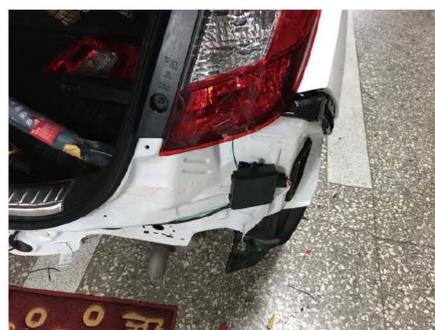
以角度尺確認持正



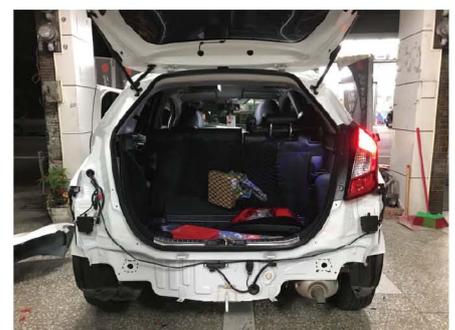
雷達感知器安裝完成



左測感知器 L-Sensor

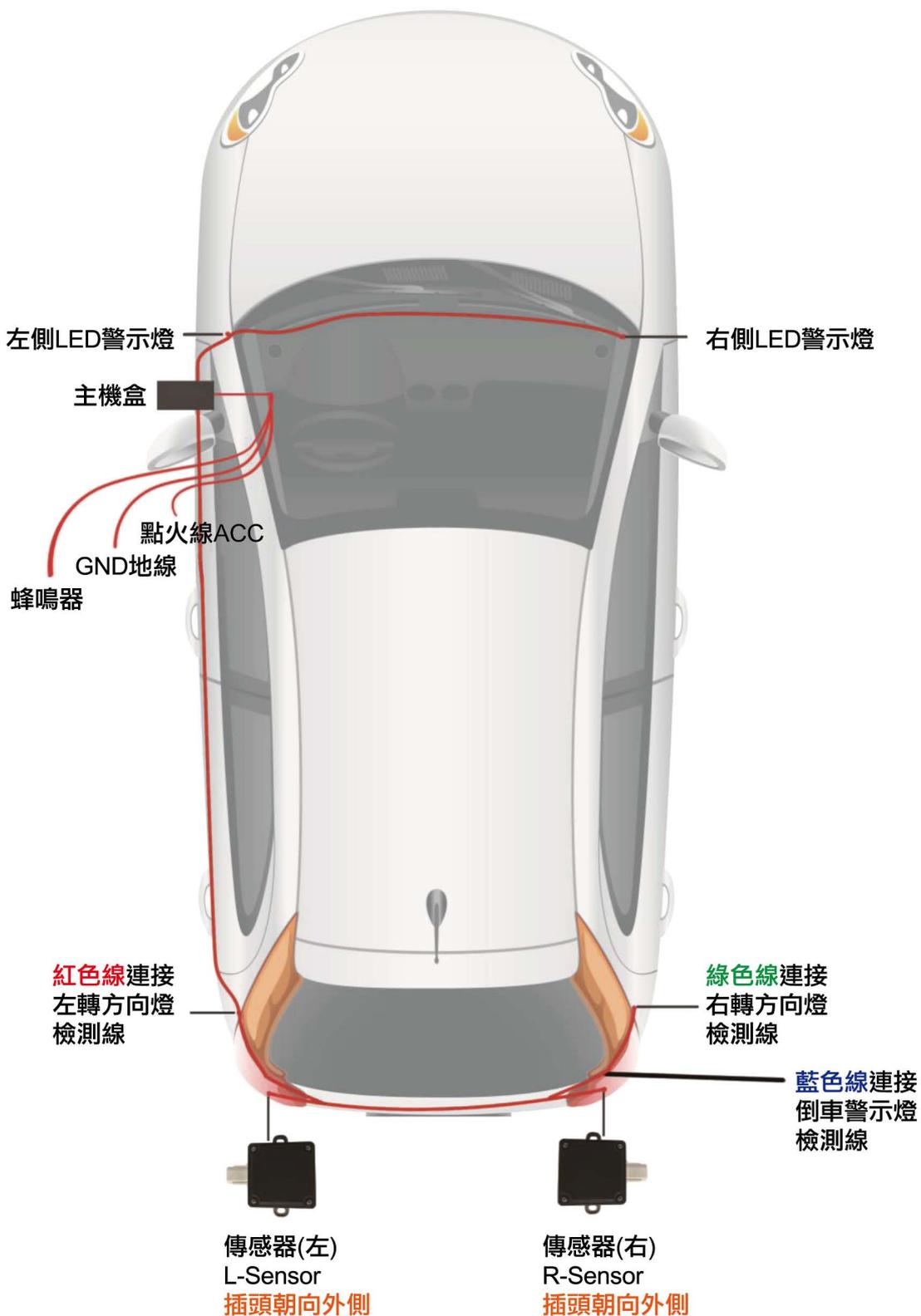


右測感知器 R-Sensor



雷達感知器安裝完成

※ 安裝整體示意圖



## 五、系統的測試

1. 完成安裝後先打開 ACC 或啟動汽車
2. 啟動後系統自檢，左右亮燈幾秒後熄滅，如左邊燈號恆亮則代表 OBD 未正確連結，如右邊燈號恆亮則代表雷達未正確連結。
3. 拉手煞車，打倒車擋，用 RCTA 功能測試從車輛交叉方向。
4. 如兩側均正常作動則系統安裝完成。

## 六、低功率電波輻射性電機管理辦法

第十二條：經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條：低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

※ 本產品已通過：NCC 認證 CCAI16LP1610T0

新光產物產品責任險 1303070000030

※ 在下列狀況時，BSM盲點偵測警示功能可能無法正確運作：

- 惡劣天候，如：豪大雨、濃霧等
- 冰或泥濘等附著在後保險桿時
- 行駛於因下雨、積水而潮濕的路面時
- 車輛與進入偵測範圍的車輛之間有明顯的車速差異時
- 車輛加速時留在偵測區內的車輛從靜止起步時
- 連續上坡或下坡道路(如，丘陵、路面傾斜等)行駛時
- 多部車同時接近且每台車之間的空隙很小時
- 車道很寬而隔壁車道的車離您很遠時
- 進入偵測區域的車輛以相同的車速行駛時
- 剛開啟BSM盲點偵測警示系統時
- 車尾安裝腳踏車架等物品時

※ 在下列狀況時，BSM盲點偵測警示功能偵測不到車輛或物體的機會可能會增加：

- 您的愛車與護欄、牆壁之間的距離很短時
- 與後方車輛間的距離很短時
- 車道很窄且進入偵測範圍的車輛跨越2車道行駛時
- 車尾有安裝腳踏車架等物品時

# Blind Spot Monitoring User Manual



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## A. Briefing of BSM

1. The Blind Spot Monitor function uses radar sensors to detect vehicles that are traveling in an adjacent lane in the area that is not reflected in the outside rear view mirror (the blind spot), and advises the driver of the vehicles existence via the outside rear view mirror indicator.
2. Cautions regarding the use of the system The driver is solely responsible for safe driving. Always drive safely, taking care to observe your surroundings.
3. The Blind Spot Monitor function is a supplementary function which alerts the driver that a vehicle is present in the blind spot. Do not overly rely on the Blind Spot Monitor function. The function cannot judge if it is safe to change lanes, therefore over reliance could cause an accident resulting in death or serious injury.
4. According to conditions, the system may not function correctly.  
Therefore the driver's own visual confirmation of safety is necessary.

## B. System function

### 1. BSM : Blind Spot Monitoring

When a vehicle is detected in the blind spot, the outside rear view mirror indicator comes on while the turn signal lever is not operated.

### 2. LCA : Lane Change Assist

If the turn signal lever is operated toward the detected side, the outside rear view mirror indicator and buzz sounds .

### 3. AOA : Active Overtake Alert

When overtaking other vehicles, the indicator light will illuminate when the vehicle enters the blind spot of the vehicle, when the vehicle is overtaken, the indicator light will go out after about 10 meters away from the car.

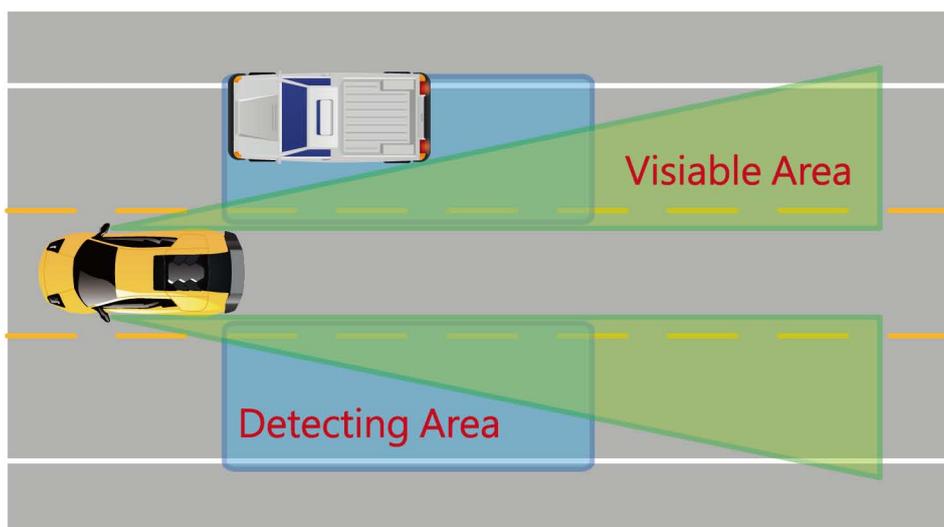
### 4. RCTA: Rear Cross Traffic Alert

The Rear Crossing Traffic Alert functions when your vehicle is in reverse.

It can detect other vehicles approaching from the right or left rear of the vehicle.

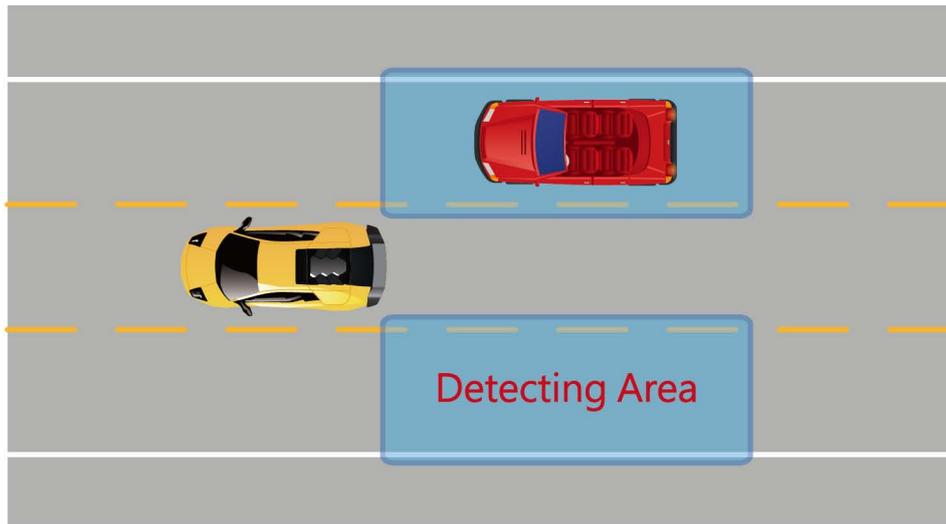
It uses radar sensors to alert the driver of the other vehicle's existence through flashing the outside rear view mirror indicators and sounding a buzzer.

## BSM : Blind Spot Monitoring



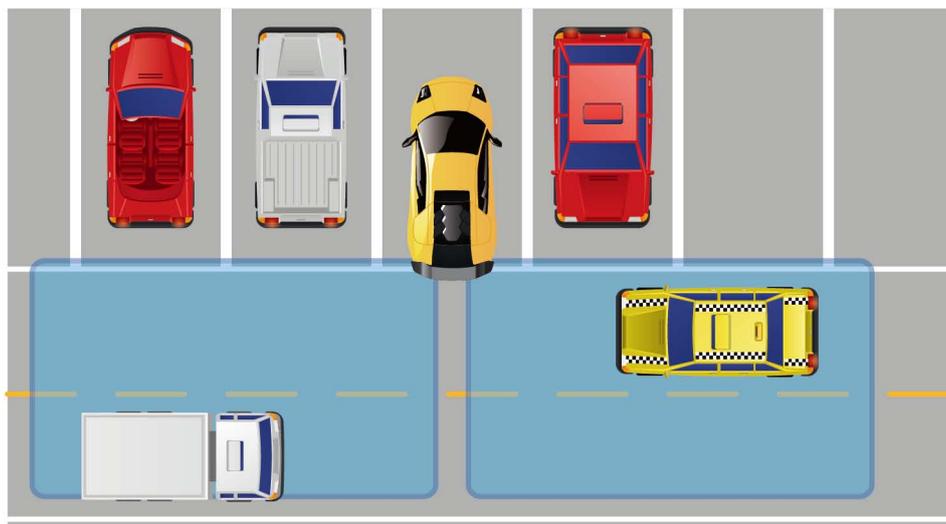
When a vehicle is detected in the blind spot, the outside rear view mirror indicator comes on while the turn signal lever is not operated.

## LCA : Lane Change Assist



If the turn signal lever is operated toward the detected side, the outside rear view mirror indicator and buzz sounds .

## RCTA : Rear Cross Traffic Alert



When your vehicle is in reverse. It can detect other vehicles approaching from the right or left rear of the vehicle.

### C. How to install sensor

Sensor is installed on left rear and right rear inside of bumper and on vehicle body

1. Measure the tall and position of parking sensor, reflective boards on the bumper.
2. Suggested position is 35cm ~ 60cm from the ground.
3. Remove bumper and select a position which sensor will not be influenced.

Plug is head to outer side and make sure sensor is not tilted.

4. Be make sure that there is no any metal object or moving metal objects around sensor, otherwise it will cause problems in detecting .



( O ) Correct Position

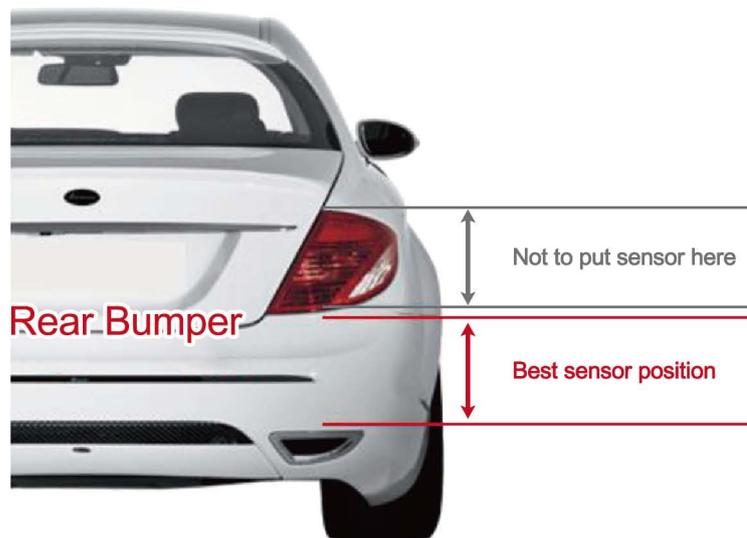
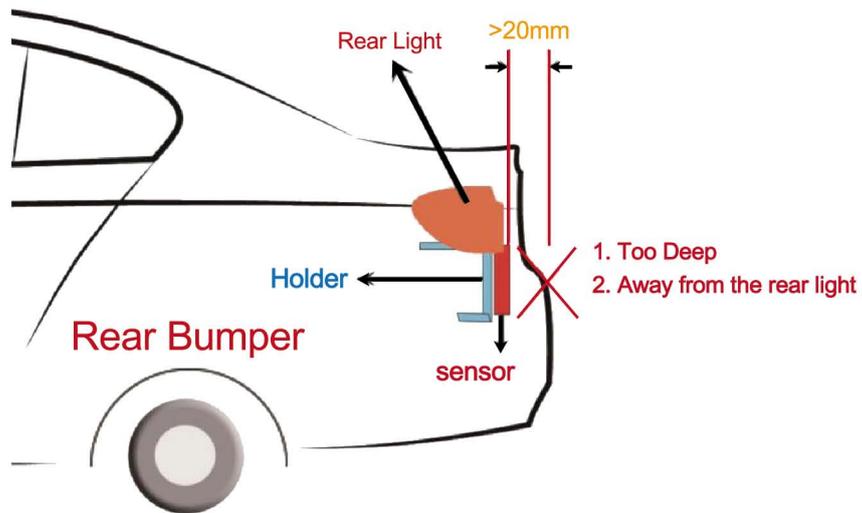
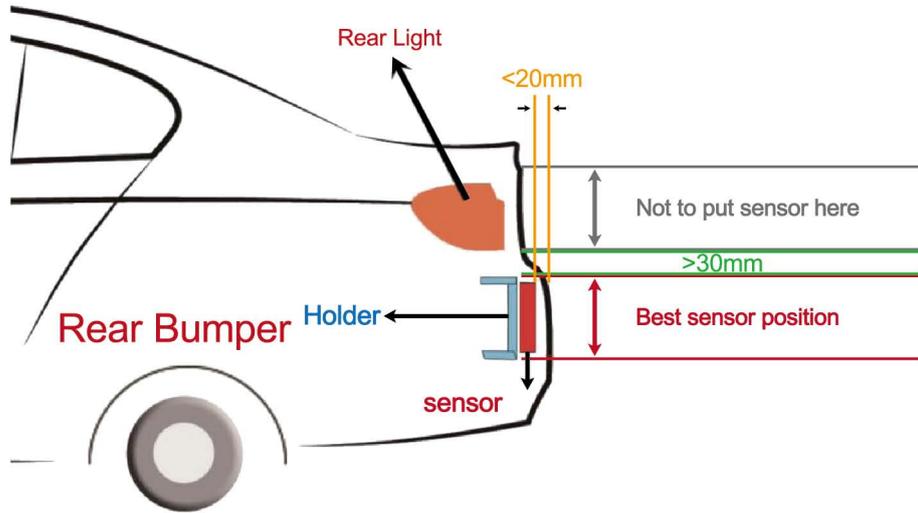


( X ) Wrong Position



( X ) Wrong Position

※ Sensor Position



#### D. How to install system

1. System contains main cable, control box, led cable, buzzer, OBD cable, indicators and 2 sensors
2. OBD reads car speed for auto start when speed is higher than 10km/hour.
3. OBD must to be connected.
4. Red cable is left turn signal to be connected with left turn signal cable.
5. Green cable is right turn signal to be connected with right turn signal cable.
6. Blue cable is reverse signal to be connected with reverse signal cable.
7. Left LED and right LED connected with LED and right indicator.
8. Buzzer put inside of car.
9. Power cable : Red is ACC \ Black is ground wire.

### Sensor Setup Step



Horizontal Confirmation



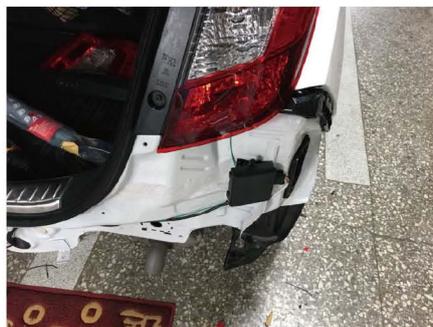
Vertical Confirmation



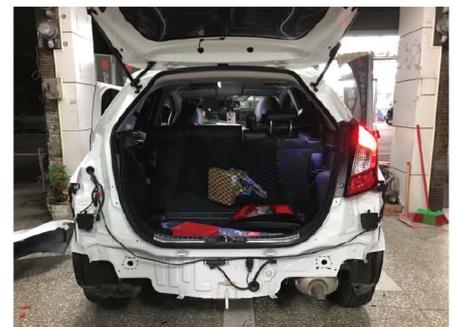
Sensor Set Complete



L-Sensor

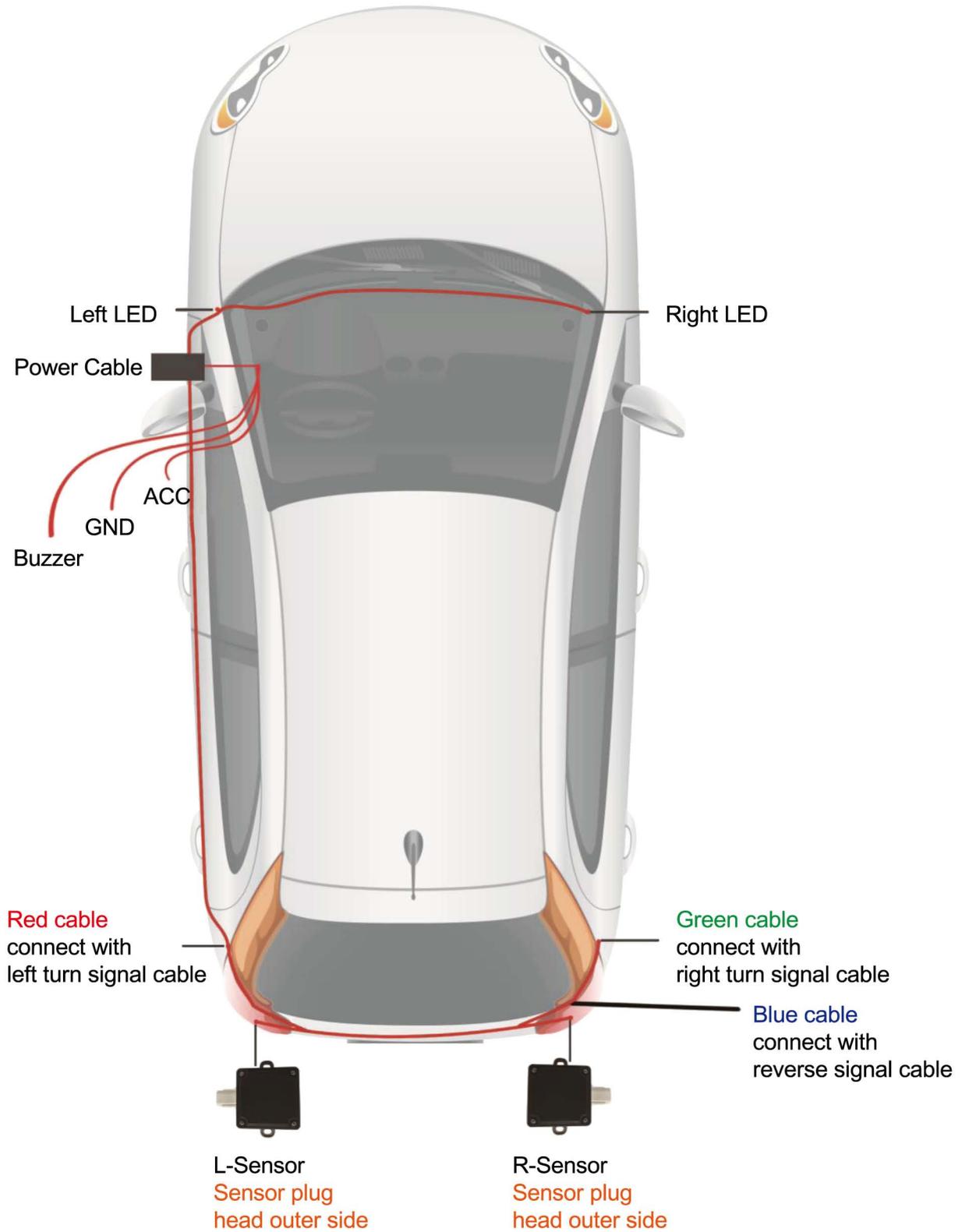


R-Sensor



Sensor Set Complete

※ Setup Position



**E. How to test**

1. When installation is done, start engine.
2. System starts and then auto check. Left and right indicator will shine and turn off in secs.  
If left indicator is always on, try to check if OBD cable is connected correctly.  
If right indicator is always on, try to check if sensor is installed correctly.
3. Pull handcart and shift into reverse gear, try to move from rear left or rear right to vehicle.
4. If both side work correctly, then installation is done.

**※ Conditions under which the Blind Spot Monitor function will not detect a vehicle :**

- ① Small motorcycles, bicycles, pedestrians, etc.
- ① Vehicles traveling in the opposite direction.
- ① Guardrails, walls, signs, parked vehicles and similar stationary objects.
- ① Following vehicles that are in the same lane
- ① Vehicles driving 2 lanes across from your vehicle :

Depending on conditions, detection of a vehicle and/or object may occur.

※ **Conditions under which the Blind Spot Monitor function may not function correctly**  
**The Blind Spot Monitor function may not detect vehicles correctly**  
**in the following conditions:**

- During bad weather such as heavy rain, fog, snow, etc.
- When ice, mud, etc. is attached to the rear bumper.
- When driving on a road surface that is wet due to rain, standing water, etc.
- When there is a significant difference in speed between your vehicle and the vehicle that enters the detection area.
- When a vehicle is in the detection area from a stop and remains in the detection area as your vehicle accelerates. When driving up or down consecutive steep inclines, such as hills, a dip in the road, etc.
- When multiple vehicles approach with only a small gap between each vehicle.
- When vehicle lanes are wide, and the vehicle in the next lane is too far away from your vehicle.
- When the vehicle that enters the detection area is traveling at about the same speed as your vehicle.
- When there is a significant difference in height between your vehicle and the vehicle that enters the detection area. Directly after the Blind Spot Monitor system is set to on.
- When towing a trailer (with towing hitch).
- When items such as a bicycle carrier are installed on the rear of the vehicle.

※ **Instances of the Blind Spot Monitor function unnecessarily detecting a vehicle**  
**and / or object may increase under the following conditions:**

- When there is only a short distance between your vehicle and a guardrail, wall, etc.
- When there is only a short distance between your vehicle and a following vehicle.
- When vehicle lanes are narrow and a vehicle driving 2 lanes across from your vehicle enters the detection area.
- When items such as a bicycle carrier are installed on the rear of the vehicle.