

Ultrasonic Parking Guide System



User's Manual

Model: SPS-401

SHIN CHANG CO., LTD.



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FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

Information to the User

This equipment has been tested and found to comply with the limits for a class B digital device pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.

The user may find the following booklet prepared by the Federal Communica-

Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

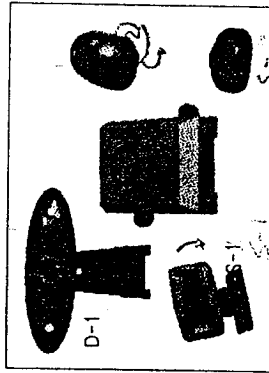
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1. Product Introduction

Parking Guide System is designed to work when your vehicle is placed in reverse gear. The ultrasonic sensor detects the objects in the back area, and then warns the driver by making different alarm sound/LED or showing the distance in accordance with location of the objects.

2. Components



oD-1: Display & Controller

(Distance indicating, right-left LED & buzzer function)

oD-2: Display(Right-left LED & buzzer function)

oC : Controller(to be used with D-2 display)

oS-1: Sensor(to be fixed by screw)

oS-2: Sensor(to be attached on the trunk, rear lamp or in-between rear lamp & bumper)

SPS 401-1C1-00

Shinchang Parking Guide System

Type of sensor (1→S-1, 2→S-2)

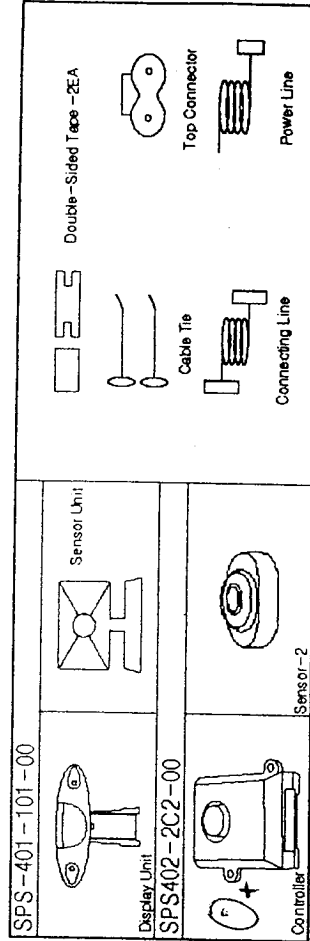
No of sensor (1→1EA, 2→2EA)

Controller (C→When used, O→When not used)

Display (1→D-1, 2→D-2)

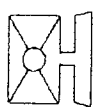
Display color

Sensor color

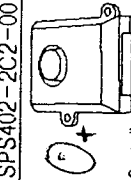


SPS-401-101-00

Sensor Unit



Display Unit

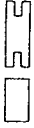


SPS402-2C2-00

Controller



Sensor-2



Double-Sided Tape -2EA



Cable Tie



Top Connector



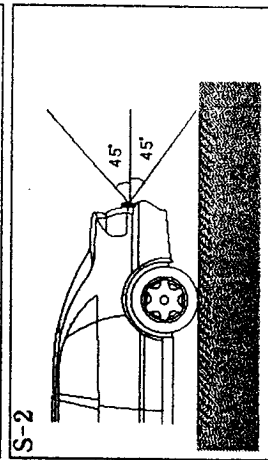
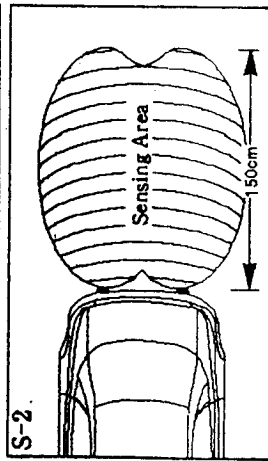
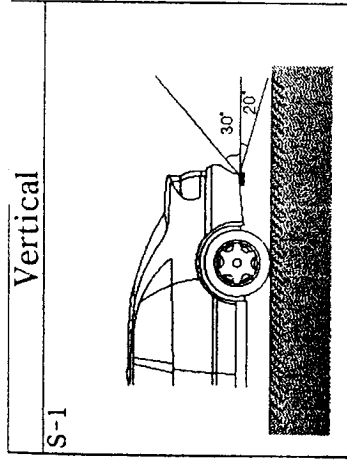
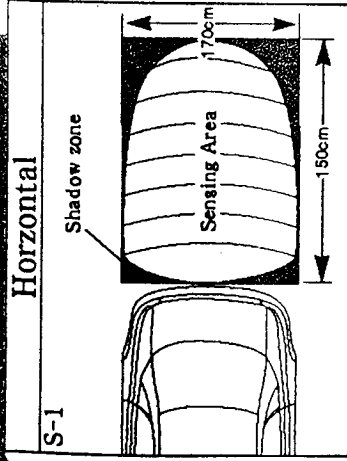
Connecting Line



Power Line

3. Specifications

- ①Power supply : DC 12V (to be connected to car battery)
- ②Power consumption : Maximum 0.3 watt
- ③Operating temperature : -30℃~ 80℃
- ④Principle of operation : Ultrasonic wave transmit & receive type
- ⑤Sensing range :



※Be aware of shadow zone

4. Function

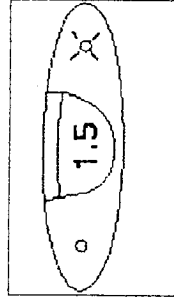
1) Three different beeping sound occurs as the car approaches obstacles in the back side.

Distance	Beeping Sound	Sound Type	Note
0~50cm	Beep-	Continuous	Stop signal
50~100cm	Beep-Beep-Beep-	Speedy intermittent	Pre-stop signal
100~150cm	Beep — Beep —	Slow intermittent	Warning signal

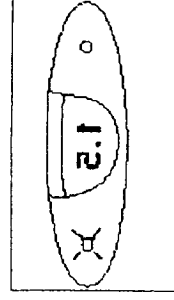
2) LED indicates the location of the obstacles(left, right) and the distance between the vehicle and the obstacles.

Location	LED	Distance
Left	Left LED Flickers	0~50cm continuous lighting (stop signal) 50~100cm quick flickering (pre-stop signal)
Right	Right LED Flickers	100~150cm slow flickering (warning signal)

Note) 1. The view in the rear-view mirror is different from actual.



(Actual)



View in the mirror

2. When there are obstacles on both sides, the closer one gets detected.

3) The color of LED shows obstacle location (left, right)

D-2 type

Obstacle location	Color
Left	Green
Right	Red

4) The display unit shows the distance in number.

D-1 type

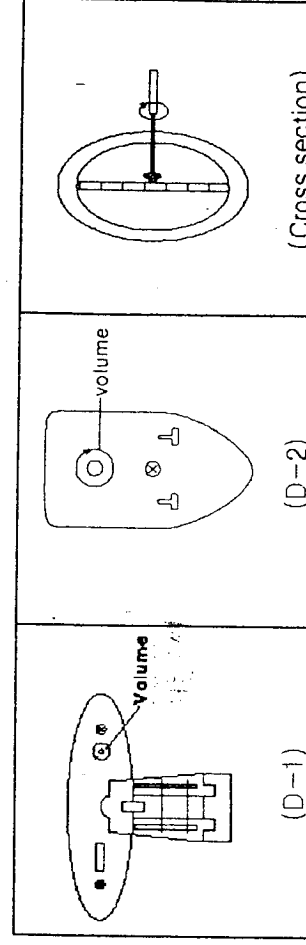
Distance	Display
Over 150cm	None
150cm ~ 30cm	1.5 ~ 0.3
less than 30cm	shows 0.3 and does not change

Note) 1. When there are obstacles on both sides, the closer one gets detected.

2. The distance is shown in meter and the minimum setting is 0.1m.

5) Alarm volume adjustment

To make the alarm sound bigger or smaller, turn the screw softly as the drawings.



5. Installation

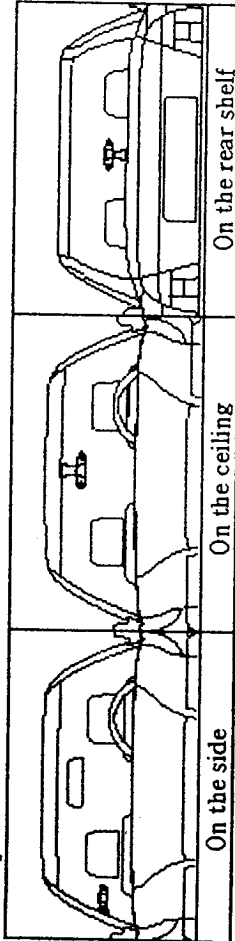
(1) Display Unit The Display unit can be installed on any rear part of inside the vehicle since the unit can be adjusted to be seen by the driver. Followings are the guidelines for deciding installation locations.

- 1) Where easy to install with bolt.
- 2) Where not to disturb the driver or passengers.
- 3) Where close to be connected to the power line.

D-1

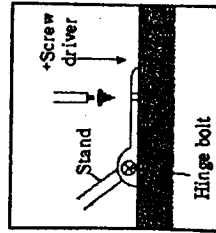
Installation location

Examples



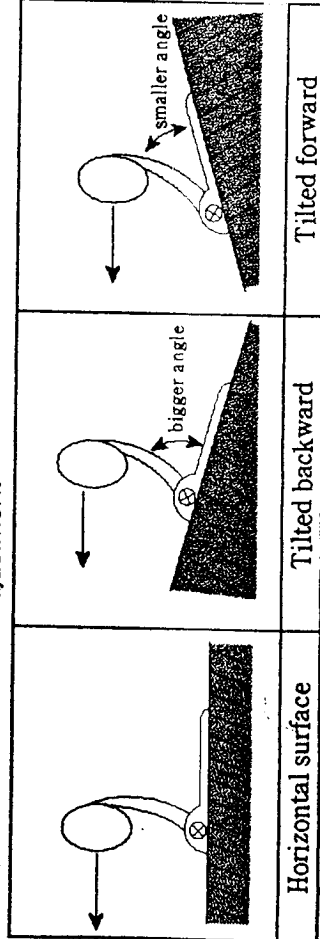
② Fixation on the car and adjustment of the stand angle

Follow the precedures below



- Loosen the hinge bolt and push the stand as the drawing.
- Press and turn the bolt as the drawing.
- After fixing on the car, adjust the stand for the best view and then tighten the hinge bolt.

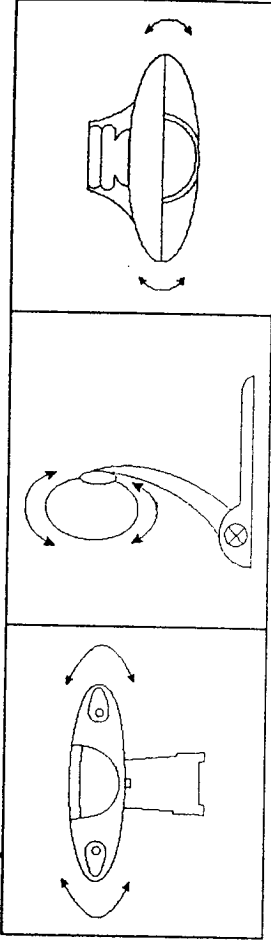
Examples of the stand adjustment.



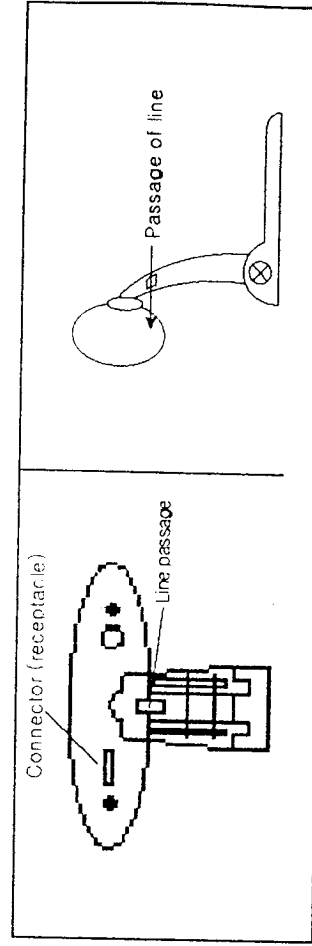
③ Adjustment of display

After adjustment of the stand, adjust the display for easy view from the driver's seat.

Examples



③ Line connection



(Drawing)

(4 Pin Connector Passage)

- ① Pass 4 pin connector of power line through line passage hole
- ② Connect the line to the unit connector
- ③ Fit the line into the rail for line (large)
- ④ Arrange other lines into hidden places.

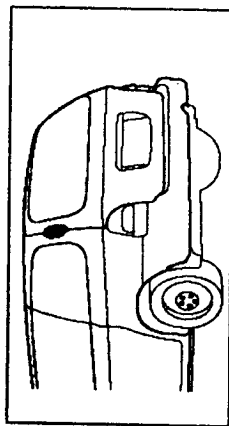
※ In case of two sensors and a controller

- ① Pass 2 pin connector of power line through line passage hole
- ② Connect the line to the unit connector
- ③ Fit the line into the rail for line (small)
- ④ Arrange other lines into hidden places.

① Where to install

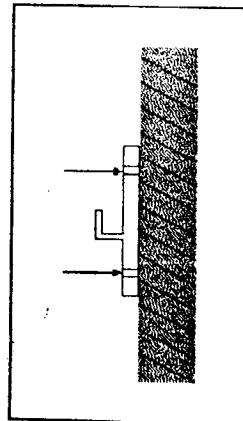
- Where easy to fix with bolt.
- Where easy to be seen.
- Where close to be connected to the power line.

Example

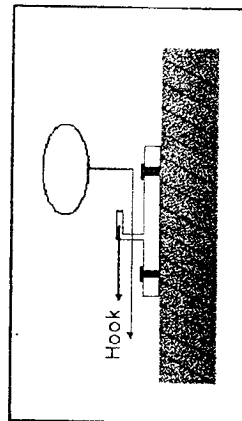


② How to fix

After deciding where to fix, fix the bracket with the bolt



Fix the bracket with the bolt



Mount the buzzer into the hook

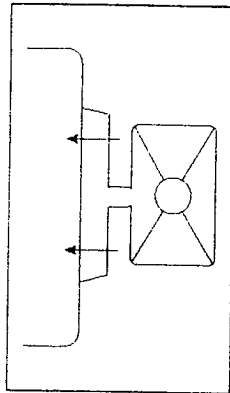
2) Sensor S-1

Sensor (Mounted)

① Where to install

One piece	Two pieces
Middle & bottom of the bumper	30cm apart from both edges of the bumper

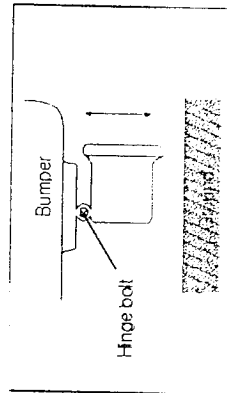
② Fixing the sensor



- Press and turn with cross screw driver as the drawing

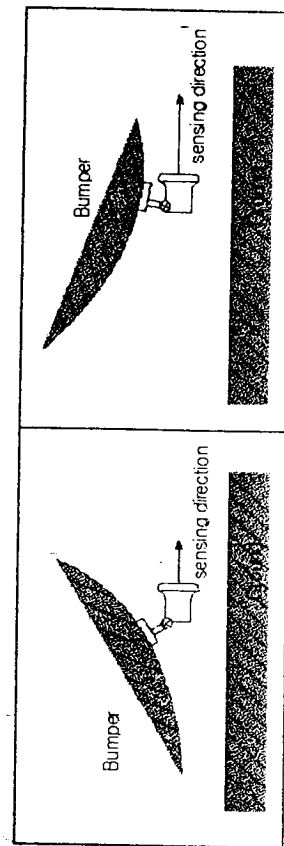
③ Adjustment of sensor angle

Adjust the sensor to be horizontal to the ground



- Unscrew the hinge bolt for adjustment

- Adjust the sensor to be horizontal to the ground



- Tighten the hinge bolt after adjustment

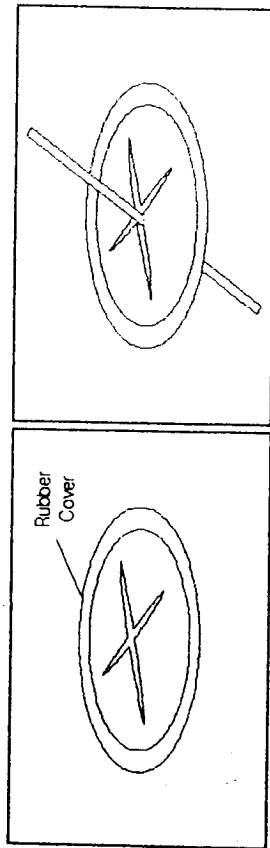
④ Line connection of the sensor

It can be connected internally through the water hole or externally through the bottom of the trunk.

Note) - Since the line is exposed, care needs to be taken for protection of line.

- Choose the water hole nearest to the sensor.

- Take out the rubber cover of water hole and cut it in cross shape for line passage.



(Cut as drawing)

(Pass the line through the hole)

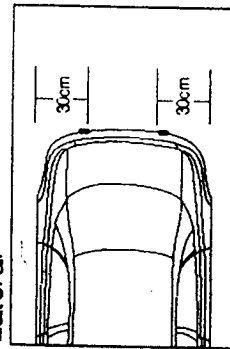
- Put back the rubber cover on the water hole.

S-2

Sensor 2 (Attached)

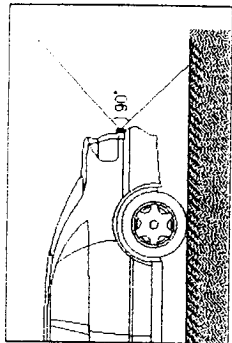
① Where to install

Lateral



-30cm apart from both edges of the bumper

Vertical



-60~70cm from the ground

Examples

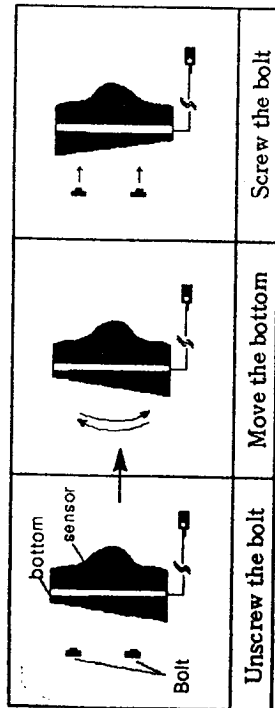
In-between rear bumper and rear lamp	In case of no space between rear lamp and bumper
	Attach on the trunk door
	Attach on the rear lamps

② Attaching the sensor

- Adjust the sensors to be parallel to the ground surface

Type A	Type B	Type C	Type D
sensor bottom	sensor wire	car body	Parallel

- Method of adjustment



- Attach the sensor
- After adjustment of the sensor, put the double sided tape on the backside of the sensor.
- Attach the sensor on car body after cleaning.

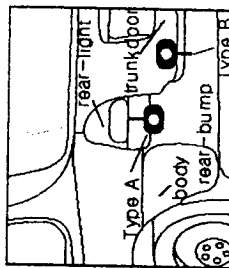
③ Sensor line connection

How to insert the sensor wire into the trunk

Type A : In case the sensor wire is inserted in between car body and rear lamp.

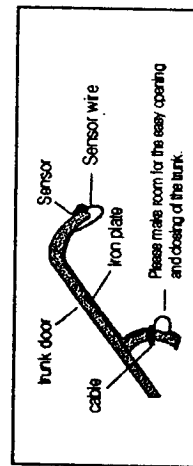
- Insert the sensor wire into the trunk through the slit which is made by loosening the screw of rear lamp.

Type B : In case the sensor is attached to the trunk door.



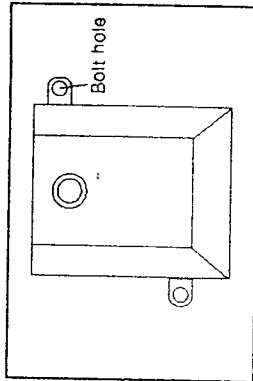
- Pull the sensor wire besides or below and then insert it into the trunk door.

- After wiring sensor line in between the dual iron plates, bind the line along the trunk supporter with cable ties.



3) Controller

- ① Where to install
Install inside of the trunk after considering followings;
 - Where easy to be fixed with the bolts.
 - Where not in the way of baggage storage
- ② Fix the controller with the bolts enclosed.

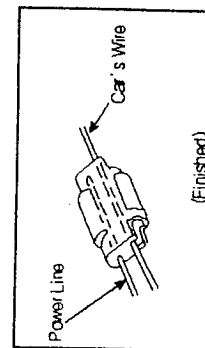
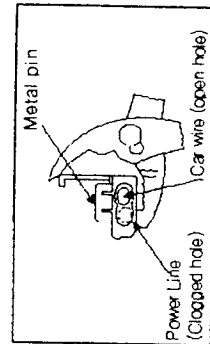
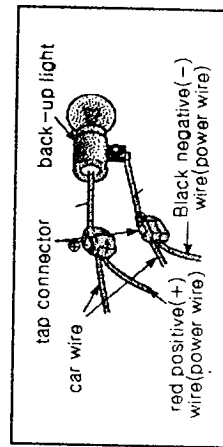


※ In case bolts can not be used, use the tapes enclosed.

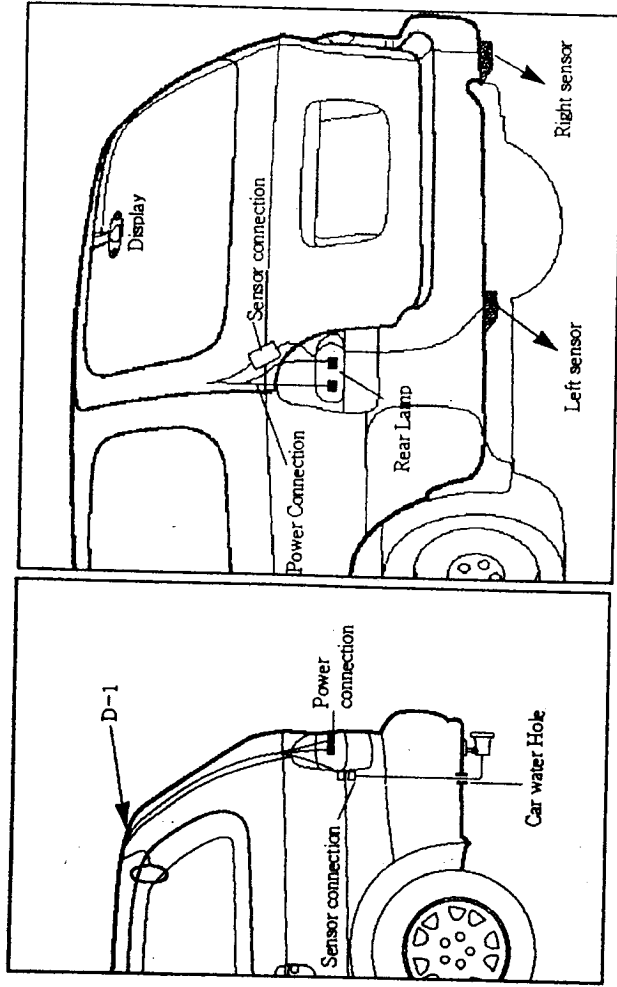
6. Power Line Connection

Connecting positive(+) and negative(-) wires.

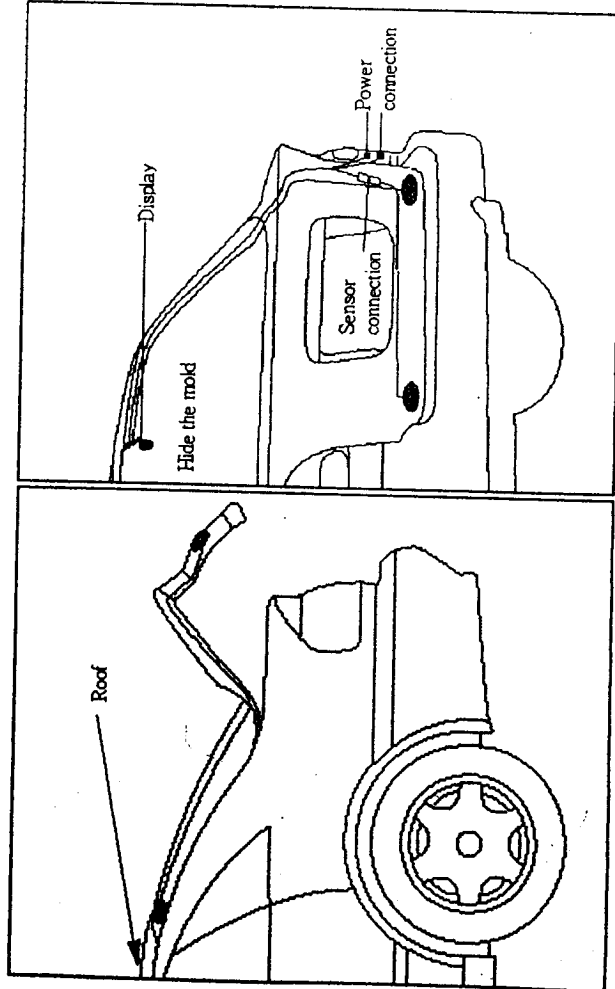
- Take the black negative (-) wire and connect it to the negative(-) wire from car's back-up light using tap connector.
- Take the red positive(+) and connect it to the positive(+) wire from car's back-up light.



<Jeep, VAN Line Connection>



<Sedan Line Connection>



7. The Service Agreement And Warranty

This warranty covers all Parking Guide System products to be free from defects in materials and workmanship for the period of one year retail sale. This warranty does not cover damages through hazards, improper wiring, installation of operation, willful abuse.

Warranty does not cover consequential damage or inconvenience caused by non-operation of the product.

This is limited to either free repair or free replacement of warranted merchandise at our discretion. No credits or refunds will be issued.

No warranty or guarantee, expressed or implied, other than stated here, exists with regard to equipment.

When the product is suspected to be defective, it must be submitted into warranty inspection, either through authorized dealers or distributors.

The entire product must be returned, not just the suspected defective part, via shipment freight prepaid, together with a written description of the suspected failure and proof of purchase.

Repaired or replaced product will be returned freight prepaid.

This limited warranty is given in lieu of all other warranties expressed or implied.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For your information;

This product is a kind of assistant device which helps drivers in during back-up procedures.

Check usually the rear-side of the cars regardless of the right operation of the alarm sound for safety.