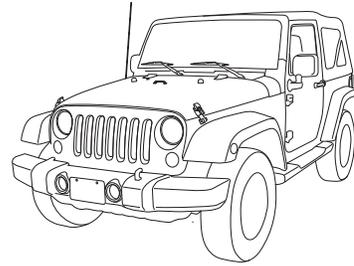


# HCE-TCAM1-WRA Spare Tire Camera & Light System for Jeep Wrangler Installation Manual



- Model: Jeep Wrangler (JK)
- Model Year: 2007-UP

\* The specified vehicles have been tested and have met compatibility specifications at the time of testing. Compatibility is not guaranteed if the manufacturer has made production changes to the vehicles listed above.

## Introductions

- Design and specifications are subject to change without notice for improvement.

## To Ensure Safe Use, Always Follow These Precautions

- The installation of this product requires specialized skills and experience. We recommend that you have the product installed by an Alpine authorized dealer.
- Before you use this product, be sure to carefully read this installation manual and the separate user's manual so that you can use the product correctly. Alpine Electronics bears no responsibility for problems that arise as a result of failure to follow the instructions in the manuals.
- This manual includes a number of symbols that are intended to help you use the product safely, to prevent harm to you and others, and to protect against damage to property. These symbols and their meanings are listed below. Make sure you fully understand these symbols before you begin reading the main text.

## Explanations of Injury and Damage That May Result from Incorrect Use

 <b>Warning</b>	Ignoring the content marked by this indication and using the product incorrectly is expected to lead to death or serious injury.
 <b>Caution</b>	Ignoring the content marked by this indication and using the product incorrectly is only expected to lead to injury or property damage.



### Spare Tire Camera & Light System for Jeep Wrangler

Warning

● 2/14

#### Types of Precautions

 Forbidden	Indicates actions that are forbidden (must not be performed)	 Mandatory	Indicates actions that are mandatory (must be performed)
 Forbidden	Indicates that disassembly is forbidden.		Marks content that should receive your full attention.

#### Warning

**Do not disassemble or modify the product. Doing so could lead to an accident, fire, or electric shock.**



Forbidden

**Store screws and other small objects where small children cannot reach them. If one of these small objects is swallowed, consult with a doctor immediately.**



**When replacing fuses, be sure to use fuses with the specified current rating. Failing to do so could lead to an accident or fire.**



Forbidden Mandatory

**Only connect the product to a 12 VDC negative ground car. Failing to do so could lead to an accident or fire.**



Mandatory

**Before you begin wiring, remove the ground wire from the negative terminal of the battery. Failing to do so could lead to electric shock or injury.**



**Do not cut the insulation on a cord and take power from another device. Doing so could lead to fire or electric shock.**



Forbidden

**Do not install the product in a location where it will obstruct the driver's forward view; interfere with the operation of the steering wheel, gearshift, or the like; or pose a threat to passengers. Doing so could lead to an accident or injury.**



Forbidden





### Spare Tire Camera & Light System for Jeep Wrangler

Warning

● 3/14

**When making a hole in the vehicle body, be careful to avoid damaging pipes, the fuel tank, electrical wiring, and the like. This kind of damage could lead to an accident or fire.**



**When installing and grounding the product, do not use any of the bolts or nuts of the steering wheel, brakes, fuel tank, or the like. Doing so could make the brakes stop working or lead to fire.**



Forbidden

**Do not install the product near the passenger-side airbag. Doing so could interfere with the operation of the airbag and lead to an accident or injury.**



Forbidden

**Bundle cords so that they don't interfere with driving. Wrapping cords around the steering wheel, gearshift, brake pedal, or the like, could lead to an accident or damage equipment.**



### Caution

**Connect the product properly according to the instructions. Failing to do so could lead to fire or an accident.**



Forbidden

**Do not sandwich cords between the seat railing or allow them to touch protrusions. Resulting breaks or shorts could lead to electric shock or fire.**



**Do not block vents or heat sinks. Doing so could lead to fire or damage equipment.**



**Use the accessories according to the instructions, and attach them securely. Failing to do so could lead to an accident or damage equipment.**



Forbidden

**Do not install the product where it may be exposed to water or in a place with high levels of humidity or dust. Doing so could lead to fire or damage equipment.**



Forbidden

**The installation and wiring of this product requires specialized skills and experience. Have the product installed and wired by an authorized Alpine dealer.**

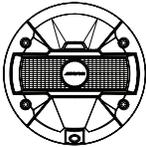
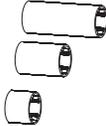
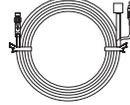


**Spare Tire Camera & Light System for Jeep Wrangler**

Installation Kit Parts

● 4/14

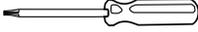
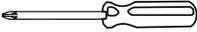
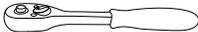
**Accessory List**

Spare Tire Camera & Light Unit	Mounting Base	Lug Nut Camera Base
		
Mounting Posts (Short, Mid, Long)	M4 Hex Socket Cap Screws (8pcs)	Camera & Light Extension Cable (7m)
		
Rubber Grommet	Installation Manual	Warranty Card and Quick Start Guide
		
Camera & Light T-Harness		
		

Spare Tire Camera & Light System for Jeep Wrangler

● 5/14

**Tools Required**

<b>Panel Removing Tool</b> 	<b>Pliers</b> 	<b>T25 Torx</b> 
<b>#2 Phillips Screwdriver</b> 	<b>Wire Cutters</b> 	<b>Torque Wrench</b> 
<b>10 mm Sockets</b> 	<b>Socket Extension</b> 	<b>19 mm Deep Socket</b> 

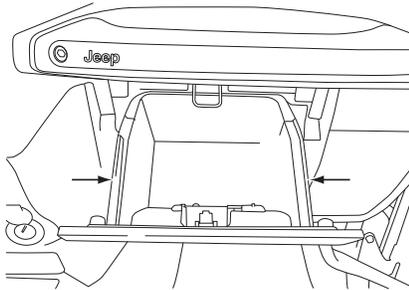
## Spare Tire Camera & Light System for Jeep Wrangler

Spare Tire Camera and Light Installation

● 6/14

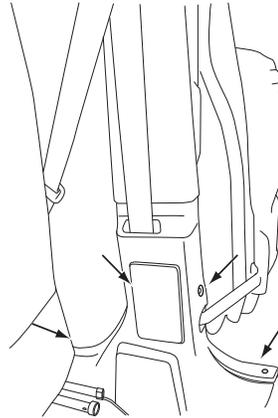
### Glove Box Removal

- 1 Open the glove box.
- 2 Push inwards both left and right sides to release the glove box out.

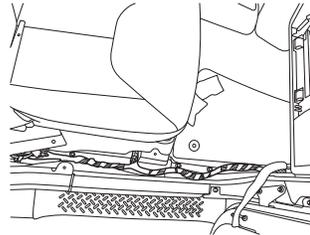


### Removing B-Pillar Panel

- 1 Remove B-Pillar panel by disengaging 4 clips on both front and rear passenger sides.



- 2 Using panel removing tool, unclip the B-Pillar. Be careful not to damage the panel.
- 3 Lift the carpet up on both front and rear passenger sides to expose the OEM cables.



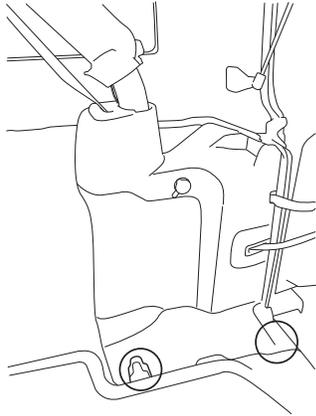
## Spare Tire Camera & Light System for Jeep Wrangler

Spare Tire Camera and Light Installation

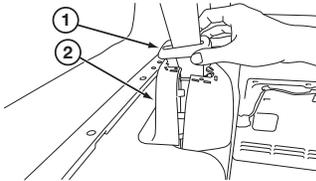
● 7/14

### Removing Rear Right Side Panel

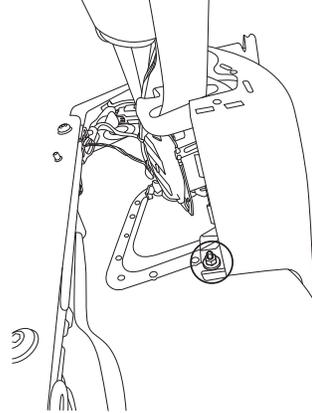
1 Using T25 Torx, remove the screws on the rear right side panel.



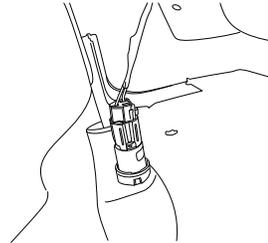
2 Using panel removing tools, pry off seatbelt cover[#1] and remove the roll cage cover[#2].



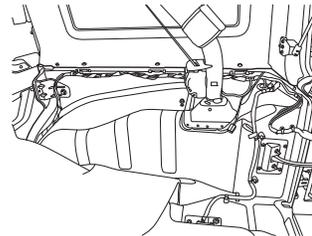
3 Using 10mm socket to remove the panel.



4 Unclip the cigarette lighter socket from the harness.



5 Remove the Rear Right Side Panel.



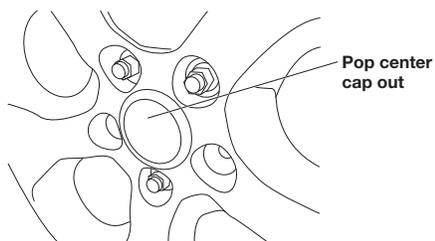
## Spare Tire Camera & Light System for Jeep Wrangler

Spare Tire Camera and Light Installation

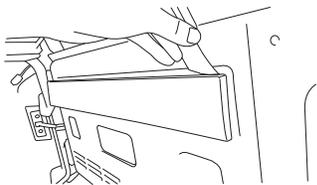
● 8/14

### Spare Tire and Wheel Removal

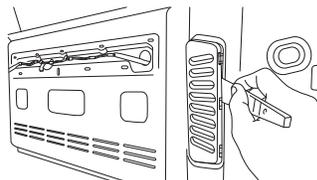
- 1 Using 19mm socket, extract the lug nuts.
- 2 Remove the spare tire center cap.



- 3 Using panel removing tools, unclip and remove wire cover on the rear gate.



- 4 Using panel removing tools, unclip and remove vent cover on the rear gate.



### Camera & Light Extension Cable Installation

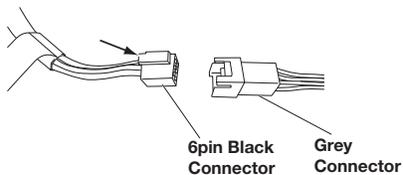
- 1 Connect RCA from the Camera & Light Extension Cable to the AUX input of the headunit.



Connection Type	Connectable Head Unit
<b>A</b> Direct Connection	X109-WRA
<b>B</b> Using Camera T-Harness Connection	i109-WRA
	X009-WRA
<b>C</b> Cutting Camera T-Harness for Manual Connection	Other iDatalink capable Alpine HU (X008U, X108U, INE-W957HD, INE-W967HD)
	All other HU or display devices

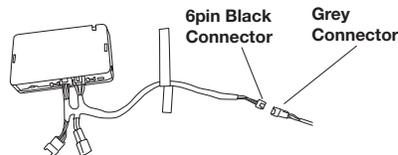
#### - Connection Type A -

If connecting to Alpine X109-WRA, connect 6pin black connector on X109-WRA main harness to gray connector on the Camera & Light Extension Cable. (See page 14 in detail)



#### - Connection Type B -

If connecting to iDatalink capable Alpine HU, use Camera & Light T-Harness to iDatalink Maestro Module and connect 6pin black connector to gray connector on the Camera & Light Extension Cable. (See page 14 in detail)



To i109-WRA and X009-WRA harness or Aftermarket iDatalink harnesses (sold separately)

## Spare Tire Camera & Light System for Jeep Wrangler

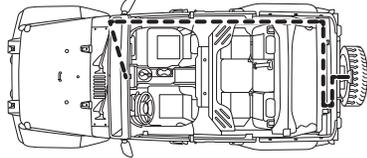
### Spare Tire Camera and Light Installation

● 9/14

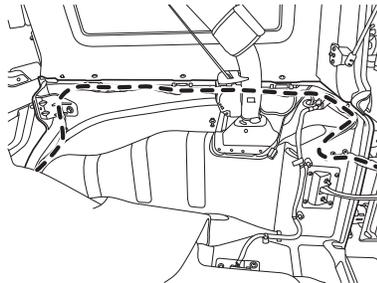
- Connection Type C -  
If connecting to all other HU, cut Camera & Light T-Harness and manually connect to each wire located on the passenger's kick panel, then connect 6pin black connector to gray connector on the Camera & Light Extension Cable. (See page 14 in detail)

 Connect ACC and GND properly according to the wiring diagram in page 14. Fail to do so could damage the product.

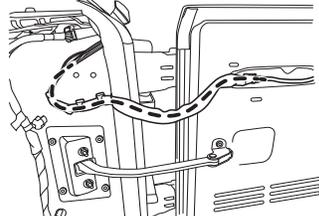
2 Route the wires:



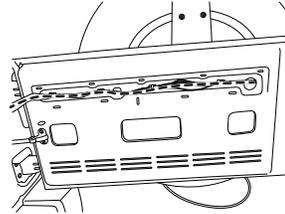
- A. Start from the head unit harness
- B. Behind the glove box
- C. Down the passenger kick panel
- D. Door sill
- E. Along the rear right side panel



F. Along the rear door handle cable

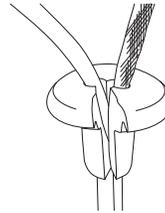


G. Secure to the factory cables.



OPTION 1:

H. Remove OEM grommet. Route the wire out of an OEM grommet hole. Insert the camera harness cable and the OEM third brake light cable through the rubber grommet provided. Cut rubber grommet by a razor blade if needed.

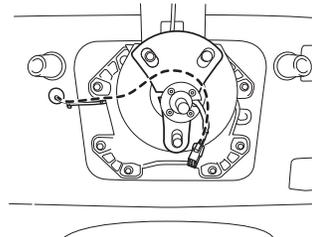


I. Press the grommet firmly into the hole.

 Use silicone to fill up all gaps around the grommet and cables to prevent water going into the rear gate.

 Failure to do so may cause moisture to go inside.

J. Along and through the centric hub.



 Route the cable so it does not interfere with any moving parts or safety equipment.

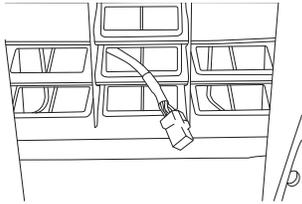
Spare Tire Camera & Light System for Jeep Wrangler

Spare Tire Camera and Light Installation

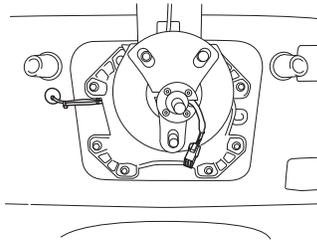
● 10/14

OPTION 2:

H. Route the wire out of a rear gate vent behind tire carrier.



I. Along and through the centric hub.



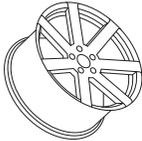
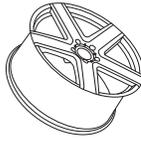
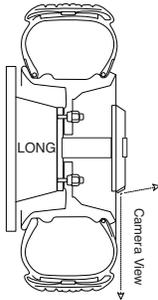
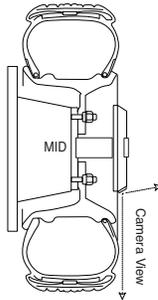
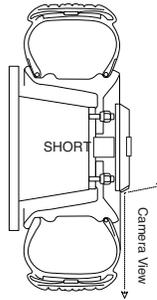
**Spare Tire Camera & Light System for Jeep Wrangler**

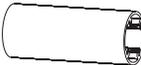
Spare Tire Camera and Light Installation

● 11/14

**Spare Tire Camera & Light Unit Installation**

- 1 Choose the length of the mounting post (Short, Mid, Long) based on your wheel depth and offset in order to see entire camera view.

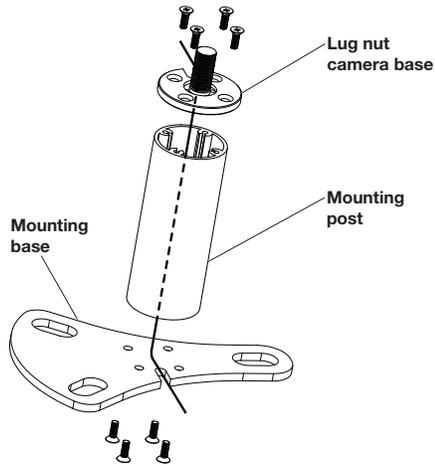
	DEEP	MID	SHALLOW
<b>WHEEL TYPE</b>			
<b>CROSS SECTION</b>			
<b>Do not block downward view by wheel or tire.</b>			

Post Type	Long	Mid	Short
<b>Length</b>	4-1/4 inch (108.0mm)	3.0 inch (76.2mm)	1-3/4 inch (44.4mm)
<b>Diameter 1-3/4 inch (44.4mm)</b>			

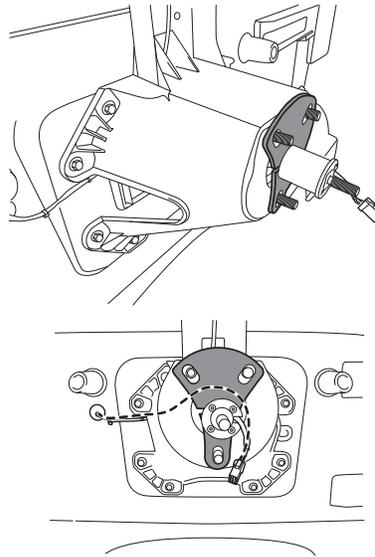
## Spare Tire Camera & Light System for Jeep Wrangler

● 12/14

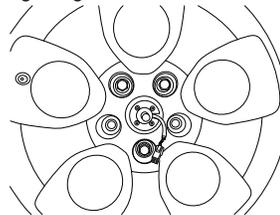
- 2 Using M4 hex key, assemble the lug nut camera base, mounting post, mounting base with the harness running along the cutout and inside the post.



- 3 Position the mounting base assembly over the factory lug nuts. Ensure that no wires are pinched or interfered with any parts or safety equipment.

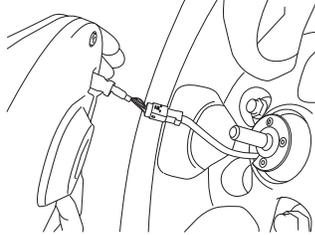


- 4 Mount the spare tire back on the hub. Make sure the mount is aligned correctly and connector coming out of the center cap hole. Secure the spare tire by tightening all lug nuts.



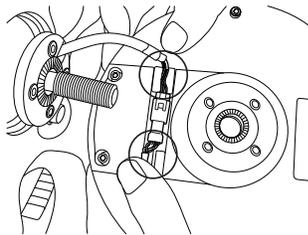
Description	Torque Spec. (ft-lbs)
Spare Tire Carrier Lug Nut (Aluminum Wheel)	54
Spare Tire Carrier Lug Nut (Steel Wheel)	72

5 Connect the Spare Tire Camera and Light unit.

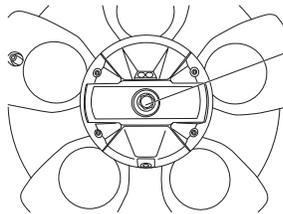


- ⚠ Do not drop Spare Tire Camera & Light unit on hard surface. Doing so could damage the unit.
- ⚠ Place floor mat or carpet on the ground underneath the camera to protect Spare Tire Camera & Light unit from dropping.

6 Press the connector into the slot. Use the rubber clips on the unit to secure the cable.



7 Using wheel lock, tighten the Spare Tire Camera and Light unit on the mount. Use threads on the unit to adjust horizontal angle of the camera.

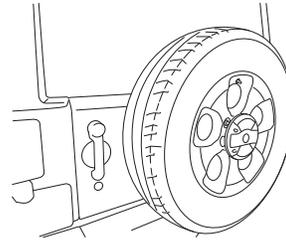


Recommend to use wheel lock to add protection.

- ⚠ We recommend using a wheel lock to protect your investment.

Description	Torque Spec. (ft-lbs)
Spare Tire Camera and Light Wheel Lock Lug Nut	14

### Completed Installation Image



- 1 Reinstall all panels, covers, carpets, cigarette lighter socket, and glove box as it was taken out.
- 2 Reinstall the ground battery cable to the battery negative post and torque the nut to the manufacturer's specification. Reinstall the metal brace.

### Final Clean-Up

- 1 Clean up the interior of the vehicle so there are no materials, metal shavings, wire pieces, debris left in the vehicle.
- 2 Make a final vehicle inspection to ensure everything has been properly installed and reconnected to the manufacturer's specifications.

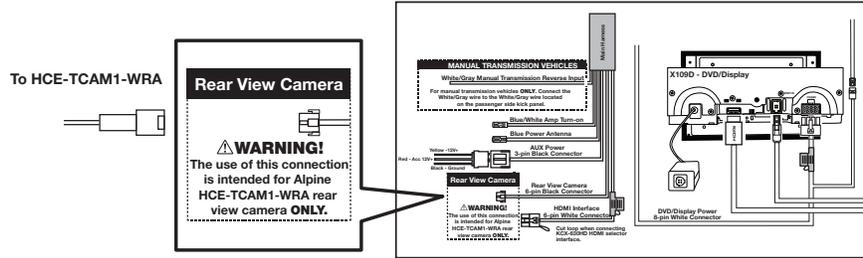
# Spare Tire Camera & Light System for Jeep Wrangler

● 14/14

## Wiring Diagram

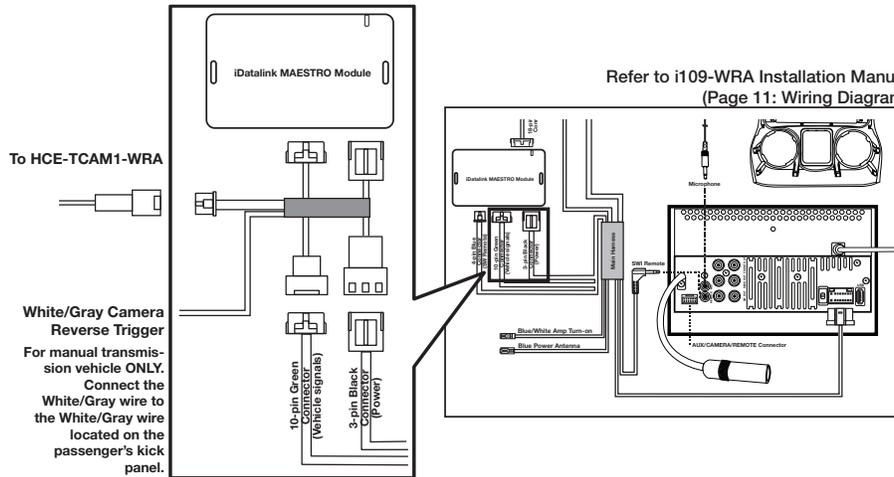
### Connection Type A Direct Connection

(Refer to X109-WRA Installation Manual Page 11: Wiring Diagram)



### Connection Type B Using Camera T-Harness Connection

Refer to i109-WRA Installation Manual (Page 11: Wiring Diagram)



### Connection Type C Cutting Camera T-Harness for Manual Connection

