Garmin

BC 20 Backup Camera

Installation Manual

BC™ 20 Wireless Backup Camera Installation Instructions

⚠ WARNING

See the *Important Safety and Product Information* guide in the GPS device product box for product warnings and other important information.

Garmin® strongly recommends having an experienced installer with the proper knowledge of electrical systems install the device. Incorrectly wiring the power cable can result in damage to the vehicle or the battery and can cause bodily injury.

When connecting the power cable, do not remove the in-line fuse holder. To prevent the possibility of injury or product damage caused by fire or overheating, the appropriate fuse must be in place as indicated in the product specifications. In addition, connecting the power cable without the appropriate fuse in place will void the product warranty.

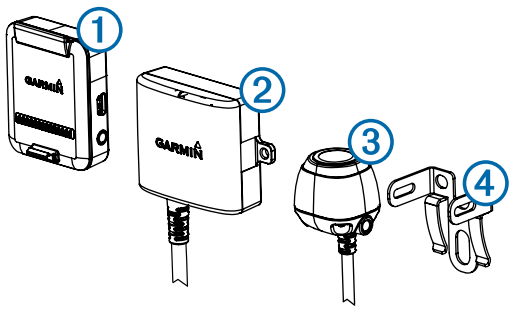
⚠ CAUTION

Always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

NOTICE

When drilling or cutting, always check what is on the opposite side of the surface.

These installation instructions do not apply to a specific vehicle type, and are meant as a guide when installing this product on your vehicle. For questions specific to your vehicle, you should contact the vehicle manufacturer.



Item	Description
①	Wireless camera PND mount The PND device must be powered through this mount to communicate with the camera.
②	Transmitter
③	Camera
④	Camera mounting bracket

Tools Needed

- Drill and 0.36 in. (9.09 mm, or size T) drill bit
- #2 Phillips screwdriver
- Screws, bolts, or cable ties (to secure the transmitter)
- Solderless wire-splice connector or solder and heat-shrink tubing
- RV sealant (optional)

Camera Mounting Considerations

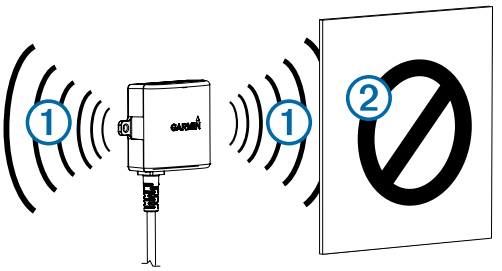
When selecting a location to mount the camera, observe these considerations.

- You should test a mounting location before you permanently mount the camera.
- Installing the camera higher on the back of the vehicle provides a better viewing angle.
- The included bracket can be clipped onto a license plate or other similar surface, or it can be fastened to the back of the vehicle using the included self-tapping, panhead screws.

Transmitter Location and Wiring Considerations

When selecting a location to install the wireless transmitter, observe these considerations.

- You should test a proposed installation location before you permanently install the transmitter.
- Although the transmitter can reliably transmit the video signal over approximately 45 ft. (13.5 m), the location of the transmitter can affect this range.
  - The closer you install the transmitter to the wireless camera PND mount, the more reliable the signal.
  - The transmitter provides the best signal when either flat surface ① is pointing toward the wireless camera PND mount.



  - Dense metal or appliances ② in the path of the transmitter greatly reduce the transmission distance.
  - The fewer solid objects that exist between the path of the transmitter and the device, the more reliable the signal.
- If the distance between the camera and the transmitter exceeds the length of the included cable, additional extension cables can be used. A 50 ft. (15 m) extension cable can be purchased, and more than one extension cable can be installed. See your Garmin dealer or go to www.garmin.com for more information.
- The fuse holder located near the transmitter is not waterproof. Installing the fuse holder in a location that is exposed to the elements is not recommended.
- The connector between the camera and the transmitter is not waterproof. If you make this connection in a location exposed to the elements, you must make sure that the connection is waterproof.

Testing the Camera and Transmitter Location

1. Temporarily secure the camera in the preferred mounting location.
2. Temporarily place the transmitter in the preferred installation location, and connect it to power and to the camera.

   TIP: If you do not want to splice into the wiring of your vehicle for this test, you can connect the transmitter and camera to a 12 Vdc battery .
3. Test the transmitter for correct operation by applying power to the PND device using the wireless camera PND mount.

   If you do not see video on the device at the preferred installation location, move the transmitter to another location and test it again.
4. Repeat steps 2–3 until the transmitter operates correctly.
5. Test the camera view by observing the video on the device.
6. If the camera does not provide the optimal view for your vehicle, move it to another location and test it again.

7 Repeat steps 5–6 until the camera mounting location provides the optimal view for your vehicle.

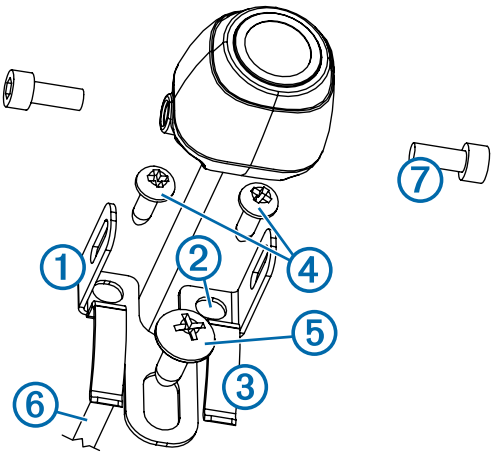
TIP: Make note of which direction is up when you are testing the camera view to ensure correct permanent installation.

Mounting the Camera

Before you permanently mount the camera, you should test the mounting location for the optimal view for your vehicle (page 2).

If you have already connected the camera to the bracket, you must first disassemble it.

1 Place the bracket ① in the mounting location.



2 Select an option:

- If you are mounting the bracket directly on the surface of your vehicle, mark the locations of the two holes on the bracket ②.
- If you are installing the bracket on a license plate, remove one of the license plate screws and clip the bracket in place so the hole on the bracket ③ lines up with the hole on the license plate.

3 Secure the bracket to the vehicle using either the included self-tapping screws ④ or the license-plate screw you removed in step 2 ⑤.

4 Place the camera in the bracket, and determine the best place for the camera cable ⑥ to enter the vehicle.

5 Using an appropriate drill bit, drill a hole for the camera cable to enter the vehicle.

6 Feed the camera cable through the hole and route it to the transmitter location.

15 m (50 ft.) extension cables can be purchased separately, if needed.

7 Secure the camera in the bracket using the included hex bolts ⑦.

8 Adjust the angle of the camera and tighten the hex bolts using the included hex key.

9 Apply RV sealant around the cable where it enters the vehicle (optional).

Installing the Transmitter

Before you permanently install the transmitter, you must test the installation location for correct operation (page 2).

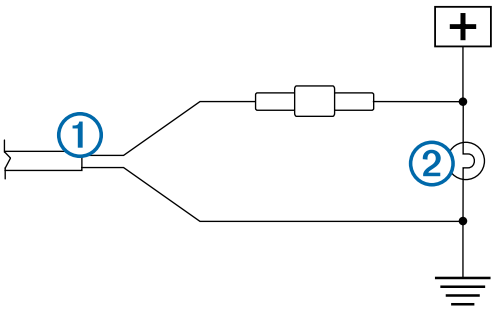
1 Secure the transmitter to the installation location using hardware appropriate for the location, such as screws, bolts, or cable ties.

The fuse holder located near the transmitter is not waterproof. Installing the fuse holder in a location that is exposed to the elements is not recommended.

2 Connect the camera and transmitter cables.

The connector between the camera and the transmitter is not waterproof. If you make this connection in a location exposed to the elements, you must make sure that the connection is waterproof.

3 Connect the power cable ① from the transmitter to a 12–24 VDC power source, preferably a reverse lamp ②, using a solderless wire-splice connector (not included).



NOTE: Connecting the transmitter to an always-on 12-24 VDC source (such as a running lamp) instead of a reverse lamp requires you to manually switch power to the transmitter. The transmitter may drain your vehicle battery if it is left on.

4 If you did not use a solderless wire-splice connector, solder and heat-shrink the electrical connections to protect them from the elements.

Using the Camera

The camera shows video on the device in different ways, depending on how you connected the power to the transmitter.

1 Select an option to show video:

- If you connected the transmitter to a reverse lamp (recommended), place the vehicle into reverse. The device automatically shows video from the backup camera.
- If you connected the transmitter to a running lamp or other steady 12 VDC source, select the camera icon on the device to show video from the backup camera.

2 Select an option to resume normal device operation:

- If you connected the transmitter to a reverse lamp (recommended), take the vehicle out of reverse. The device automatically resumes normal operation.
- If you connected the transmitter to a running lamp or other steady 12 VDC source, select the camera icon on the device to resume normal operation.

Pairing the Transmitter and Device Mount

The transmitter and wireless camera PND mount come paired from the factory. If the transmitter and the PND mount are properly installed and you are not receiving video, you can try to re-pair the transmitter and the PND mount.

1 Verify there is no power to the transmitter by placing the vehicle in park or turning off the applicable steady power source.

2 Turn on the PND device connected to the wireless camera PND mount.

3 On the wireless camera PND mount, hold **PAIR** until **Start Pairing** appears on the PND device.

If **Start Pairing** does not appear on the PND device, make sure the wireless camera PND mount is correctly connected to power.

4 Apply power to the transmitter by placing the vehicle in reverse or turning on the applicable steady power source.

After approximately five seconds, **Pairing OK** appears on the PND device.

5. Power cycle both the wireless camera PND mount and the transmitter by turning them both off and then back on again.
6. If the transmitter and wireless camera PND device mount do not pair successfully, repeat steps 1–4.

Specifications

Specification	Value
Camera sensor	1/3.7-type CMOS
Camera resolution	640 × 480
Camera angle (vertical)	115°
Camera angle (horizontal)	140°
Camera and transmitter input voltage	9–28 VDC
Fuse	500 mA, fast-blow
Camera and transmitter current usage	150 mA @ 12 VDC
Camera and transmitter waterproof rating	IEC 60529 IPX7
Camera temperature range	-40° to 185°F (-40° to 85°C)
Transmitter and PND mount temperature range	-4° to 158°F (-20° to 70°C)
Wireless transmission type	2.4 GHz ISM radio band
Wireless transmission distance	45 ft. (13.5 m)

Radio Frequency Exposure

This device is a mobile transmitter and receiver that uses its antenna to send and receive low levels of radio frequency (RF) energy for voice and data communications. The device emits RF energy below the published limits when operating in its maximum output power mode and when used with Garmin authorized accessories. To comply with FCC RF exposure compliance requirements, the device should be used in a compatible mount or as mounted per the installation instructions only. The device should not be used in other configurations.

This device must not be co-located or operated in conjunction with any other transmitter or antenna.

Instructions d'installation de la caméra de recul sans fil BC™ 20

⚠ AVERTISSEMENT

Consultez le guide *Informations importantes sur le produit et la sécurité* inclus dans l'emballage du GPS pour prendre connaissance des avertissements et autres informations sur le produit.

Garmin vous recommande fortement de faire installer l'appareil par un technicien expérimenté, disposant des connaissances appropriées en matière de circuits électriques. Le raccordement incorrect du câble d'alimentation peut endommager le véhicule ou la batterie et entraîner des blessures corporelles.

Lorsque vous connectez le câble d'alimentation, ne retirez pas le porte-fusible en ligne. Pour éviter de vous blesser ou d'endommager votre produit en exposant la batterie au feu ou à une chaleur extrême, le fusible approprié doit être placé comme indiqué dans les caractéristiques techniques du produit. De plus, la connexion du câble d'alimentation en l'absence du fusible approprié annulerait la garantie du produit.

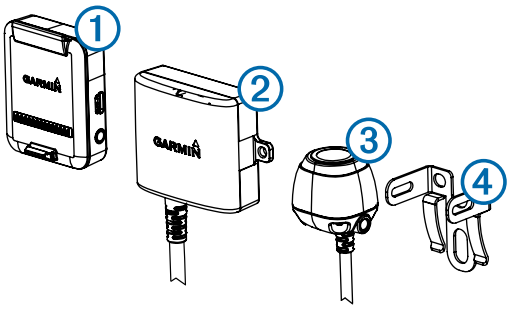
⚠ ATTENTION

Portez toujours des lunettes de protection, un équipement antibruit et un masque anti-poussière lorsque vous percez, coupez ou poncez.

AVIS

Lorsque vous percez ou coupez, commencez toujours par vérifier la nature de la face opposée de l'élément.

Ces instructions d'installation sont universelles et se proposent d'accompagner l'installation du produit sur votre véhicule, quel que soit son modèle. Pour toutes questions sur votre véhicule, veuillez contacter votre concessionnaire.



Elément	Description
①	Support de l'appareil de navigation avec caméra sans fil L'appareil de navigation doit être alimenté via ce support afin de communiquer avec la caméra.
②	Emetteur
③	Caméra
④	Support de fixation de la caméra

Outils requis

- Perceuse et foret de 9,09 mm ou taille T (0,36 pouce)
- Tournevis cruciforme numéro 2
- Vis, écrous ou attaches de câbles (pour fixer l'émetteur)
- Clip pour câbles ne nécessitant pas de soudure ou fer à souder et tube thermorétrécissable
- Mastic adapté aux véhicules de loisir (facultatif)

Considérations relatives au montage de la caméra

Au moment de choisir un emplacement de montage de la caméra, tenez compte des remarques suivantes.

- Testez un emplacement de montage avant d'installer la caméra de manière définitive.
- Installez la caméra en hauteur à l'arrière du véhicule pour bénéficier d'un angle de vue optimal.
- Le support de fixation fourni peut être clipsé à une plaque d'immatriculation ou à un support similaire, ou bien attaché à l'arrière du véhicule à l'aide des vis à tête cylindrique plate autoperceuses fournies.

Emplacement de l'émetteur et considérations relatives au câblage

Au moment de choisir un emplacement d'installation de l'émetteur sans fil, tenez compte des remarques suivantes.

- Testez l'emplacement d'installation proposé avant d'installer l'émetteur de manière définitive.
- Bien que l'émetteur puisse transmettre de manière fiable le signal vidéo à une distance de 13,5 m (45 pieds) environ, l'emplacement de l'émetteur peut affecter cette portée.
  - La fiabilité du signal dépend de la proximité de l'émetteur par rapport au support de l'appareil de navigation avec caméra sans fil.
  - L'émetteur restitue un signal optimal quand il est posé sur une surface plane ① orientée vers le support de l'appareil de navigation avec caméra sans fil.