

# NoPileups Camera Install Guide

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VERSION 4.1, REVISED 9/2021

**NoPileups Support**

(833) 667-4538 | [support@NoPileups.com](mailto:support@NoPileups.com) | [www.drb.com](http://www.drb.com)

NOPILEUPS IS PATENTED SOFTWARE | PATENT NUMBER 11,127,283

## Contacting NoPileups Support

For assistance installing and using NoPileups, contact NoPileups support by phone at [\(833\) 667-4538](tel:(833)667-4538) or [\(208\) 789-0405](tel:(208)789-0405); or by email at [support@NoPileups.com](mailto:support@NoPileups.com).

Installation support is available Monday - Friday, 9 AM to 7 PM Eastern Standard Time (EST).

General software support is available Monday - Friday 7 AM to 9 PM Eastern Standard Time (EST), and Saturday and Sunday 9 AM to 6 PM EST.

## NoPileups Documentation

To view a digital copy of this manual, or to view all the latest NoPileups documentation, visit [www.drb.com](http://www.drb.com), select “Support & Training”, then “NoPileups Support & Training”.

## Pre-Install

For guidance on camera and network switch selection, refer to the “Selecting Cameras for NoPileups” document or visit <https://www.drbsystems.com/npu/support/camera-selection/>.

Ensure that camera hardware has been approved and you have been provided with a camera placement diagram by NoPileups before beginning the install process. If you have not been provided with camera recommendations, contact your project coordinator or NoPileups support.

## Install

There are three phases of camera installation: conduit and wiring, camera mounting and camera alignment.

### Conduit and Wiring

NoPileups recommends that all network cables run inside the tunnel be installed inside PVC conduit. Cameras themselves should be mounted to waterproof junction boxes to limit water ingress. Seal conduit joints and junction boxes to reduce the chance of water entering. Silicone sealant will provide extra protection.

### Camera Mounting

Proper camera placement is critical to ensuring cameras stay as clean and dry as possible.

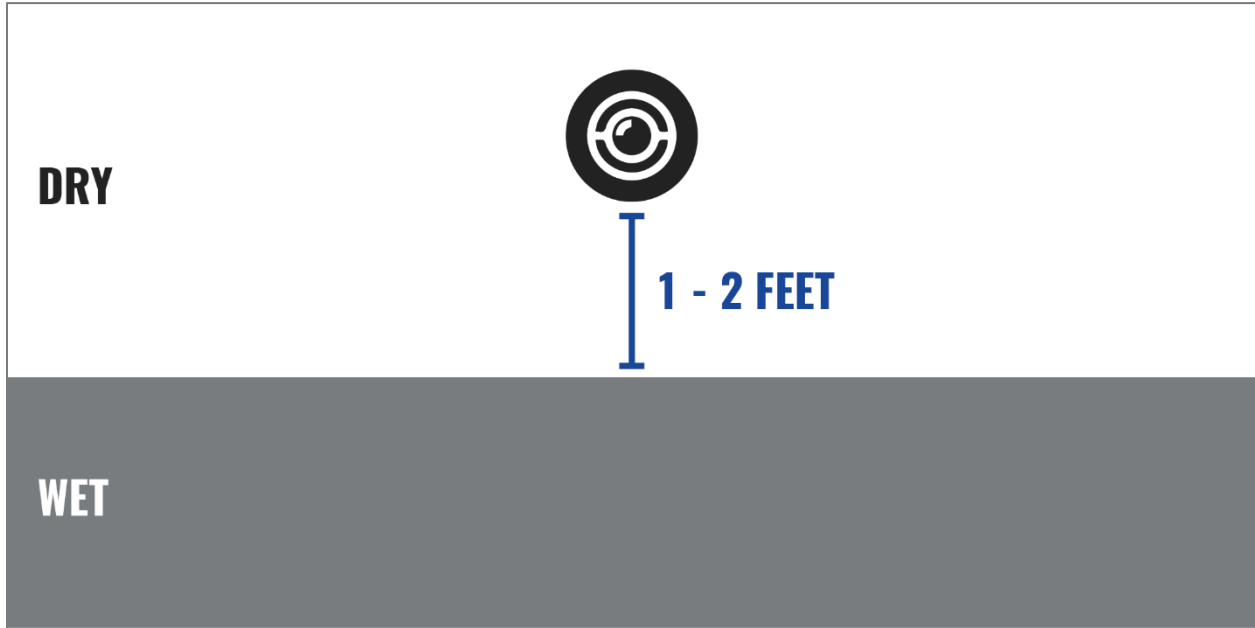
To minimize the amount of mist and water that the camera is exposed to during installation, “dome” style cameras should be installed while the wash is not operating.

NoPileups provides camera placement recommendations based on tunnel measurements provided by the customer. The recommendations should be followed, but if it appears that equipment or window locations in the recommendations are incorrect, adjust camera locations as needed following the rules below. If possible, contact NoPileups support to verify adjustments before installing cameras.

Cameras should be installed roughly every 20 feet in the tunnel, starting at the enter eye or vehicle detector, and ending at the exit driveway. The exact spacing will depend on equipment placement. Gaps

between cameras larger than 30 feet will cause areas of the tunnel to be unprotected. Overlap between cameras will not cause problems and is encouraged.

All cameras should be installed on wash tunnel walls 12 feet above the floor. If it is not possible to install cameras this high due to obstructions, ensure that each camera is mounted on a section of wall that remains dry during normal wash operation. If cameras are installed on the ceiling, they should be placed as close to the wall as possible.

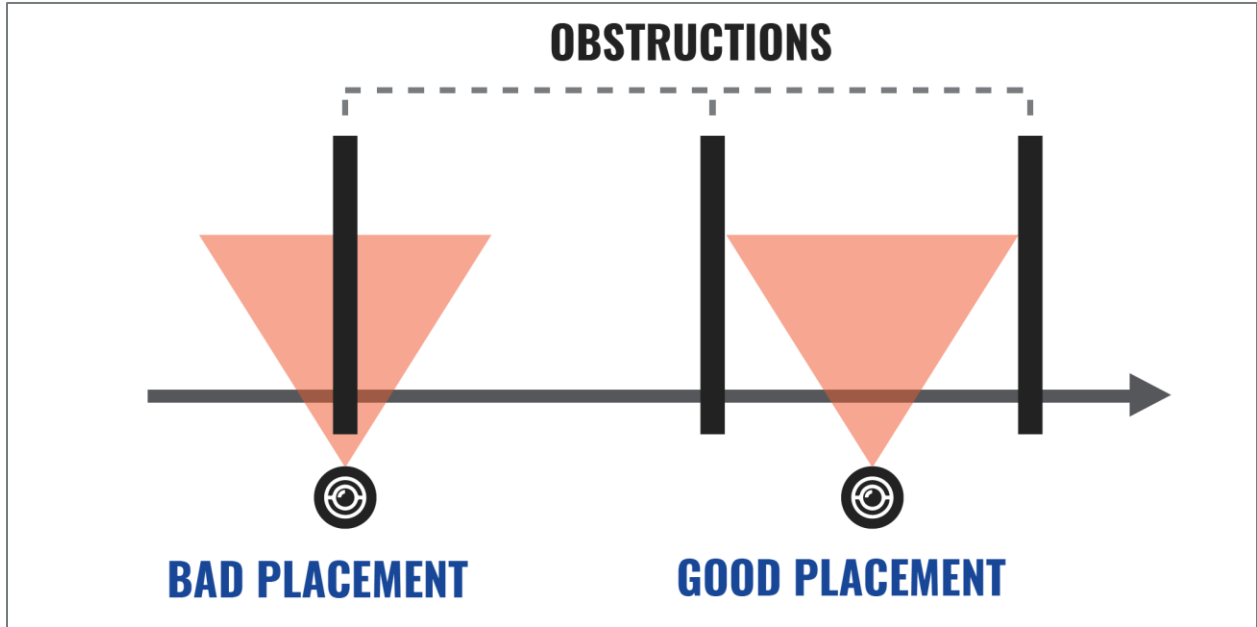


Cameras cannot be installed on the ceiling directly above where cars move on the conveyor. Cameras must be able to easily see the complete side profile of passing vehicles, from the top of the vehicle to the bottom of the tires.

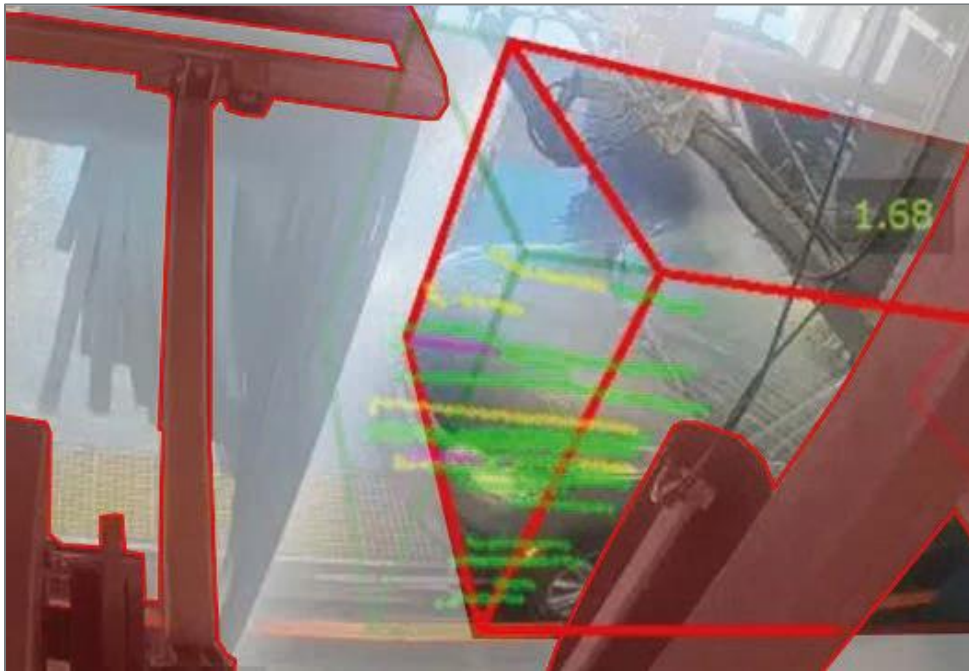
Cameras can be installed on either side of the tunnel. All cameras do not have to be installed on the same side of the tunnel, both sides can be used to get around obstructions. Cameras should be installed on the **same** side of the tunnel as exterior windows. If a camera will be wet when installed next to windows, but dry when installed across from the windows, install the camera across from the window.

### Install Around Obstructions

To maximize protection, NoPileups needs as unobstructed of a view of the passing vehicles as possible. When installing cameras near arches, install the camera on one side of the car or the other rather than centering the camera on the arch.



When installing cameras near top brushes, install the camera before the top brush or in line with the brush itself, rather than in front of the post that hold the top brush. For wraps, grill brushes and other moving equipment, install the camera before the arch that holds the equipment, or in an area that is blocked for the least amount of time by the equipment during normal movement.



*This camera can see through obstructions and has an entire vehicle length to track the car. This angle offers a great view of the rail and vehicle. This is an ideal field of view in the presence of car wash equipment, windows, and spray.*

Cameras near blowers should be mounted securely. Moving air from the blowers can cause the camera to shake, which will reduce tracking accuracy.

Make sure that cameras are installed in areas that are accessible so that they can be cleaned daily.

### Waterproofing

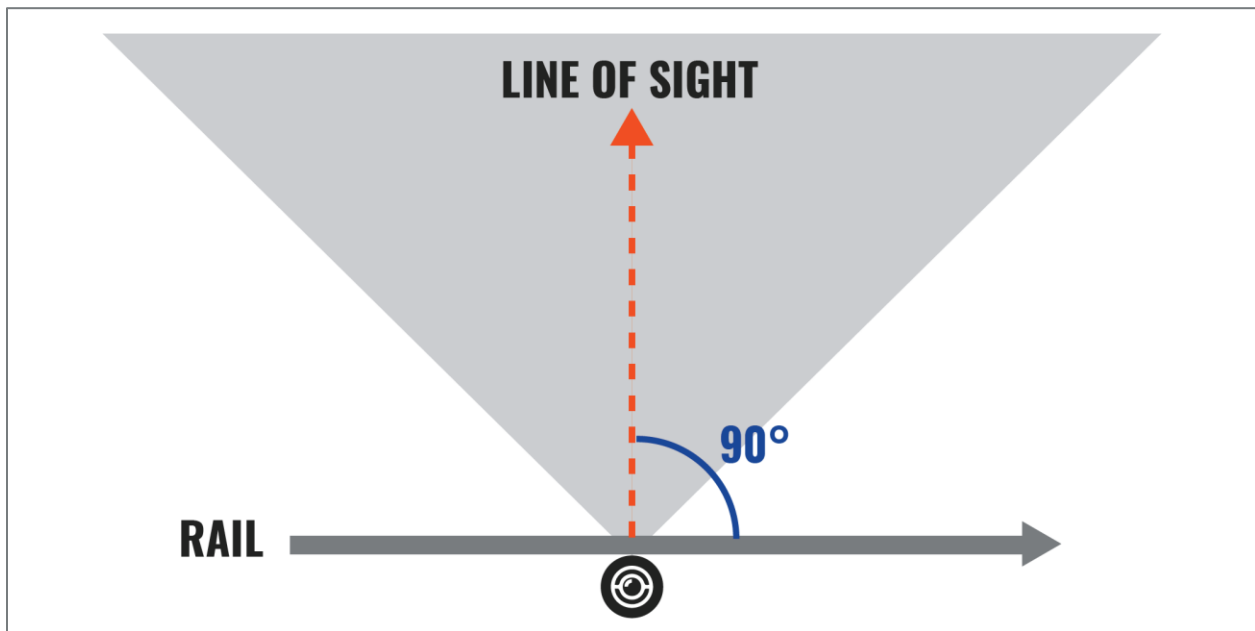
When installing cameras, be sure to use any waterproof connectors that are included with the camera. Generally, this includes a piece that fits over the end of the network connection on the camera, and a corresponding piece that fits over the network cable that plugs into the camera. Together these pieces form a watertight seal. If there is an audio connector on the camera that will not be used, seal the connector during install.

Consider using sealant to seal parts of the camera that will not need to move to adjust the camera angle to provide additional waterproofing protection.

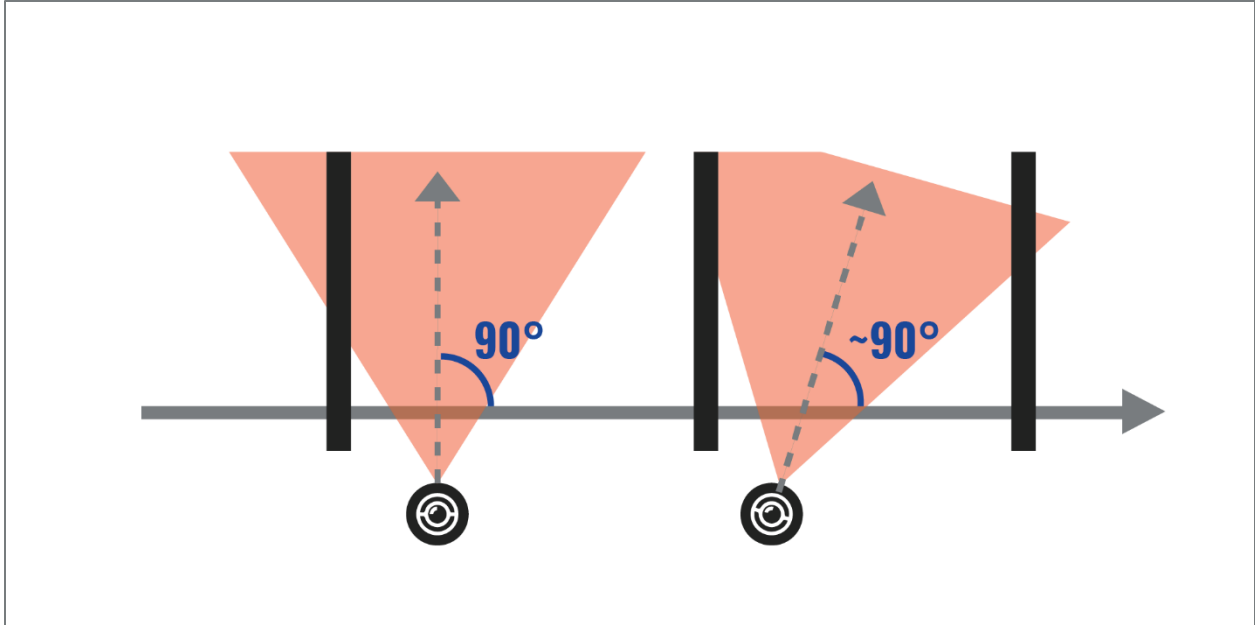
### Camera Alignment

After mounting the camera, it will need to be aimed to see as much of passing cars as possible. NoPileups support can assist you in aligning the cameras, refer to the contact information at the beginning of this document for more information.

Mid-tunnel cameras should be aimed directly at the rail in front of them when possible.



Exit cameras, especially those mounted on the exterior of buildings can be angled to maximize the viewing area.



The top of the camera view should be low enough that lights on the ceiling are not visible (the brightness of these lights can cause the light balance of the camera to be incorrect). In wet areas where the tunnel where the sun shines directly on the floor, the camera view should end just below the bottom of passing vehicle tires, even if this means showing more of the ceiling.

For maximum protection, minimize the amount of the camera view that is taken up by walkways, obstructions, or other areas where cars cannot be seen.

### Locking Camera Alignment

After the camera has been aligned, be sure to tighten screws that prevent the camera from being adjusted easily. This is especially important for “turret” and “bullet” style cameras. If the camera alignment is not locked, the camera can be bumped while being cleaned. This will cause unnecessary tunnel stops until NoPileups staff can adjust the camera settings.

Ensure that if the lock is a security or specialty screw, the bit is kept track of. It may be needed in future to adjust or replace the camera.

### Patent Information

NoPileups is patented technology, covered by patent number 11,127,283. For more information, please visit [www.drb.com/patents](http://www.drb.com/patents).