



Installation Instructions

Aiming Adjuster & Standoff Pivot Assembly Kit Piece No. 5010079 for Bendix® XVision® IR Camera

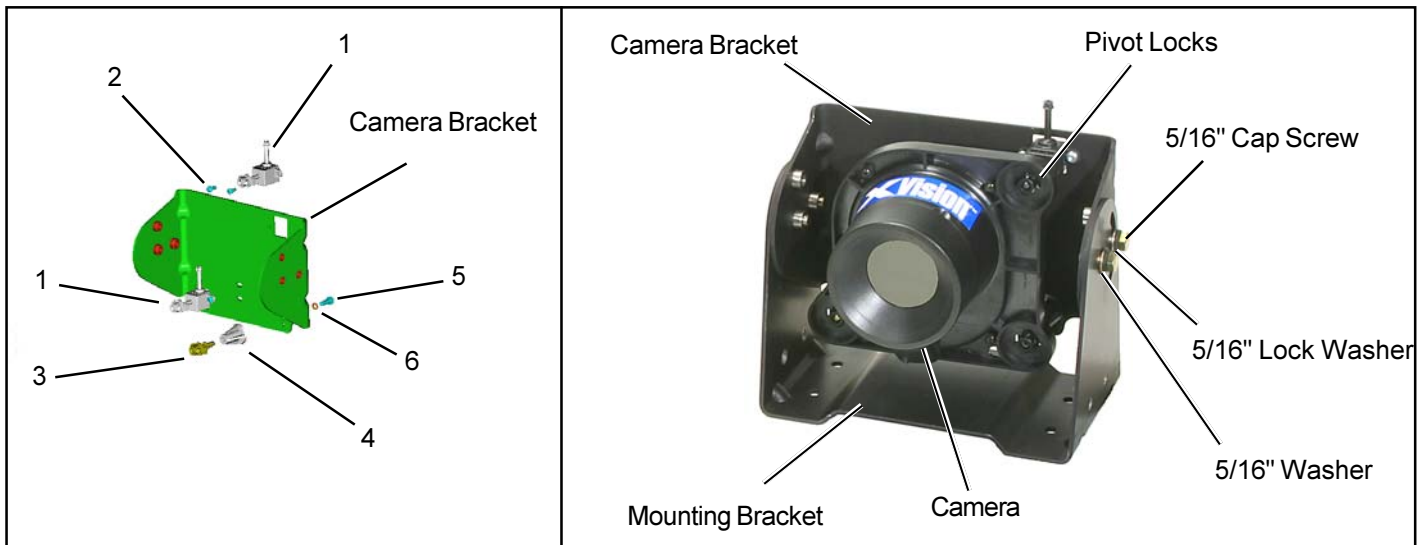


Figure 1 Aiming adjusters and pivot assembly

Aiming adjuster and pivot assembly replacement kit piece no. 5010079 consists of the following:

| Item No. | Description | Qty. |
|----------|-------------------------|------|
| 1 | Aiming Assembly | 2 |
| 2 | # 8 Hex Torx Screws | 4 |
| 3 | Standoff Pivot Assembly | 1 |
| 4 | Standoff Base | 1 |
| 5 | Plastite® Screw | 1 |
| 6 | #10 Lock Washer | 1 |

DESCRIPTION

This kit contains all of the components necessary to install the aiming adjusters and pivot assembly on the Bendix® XVision® IR camera. To install this kit the camera must be removed from the camera bracket. Removal of the camera bracket from the mounting bracket is not necessary.

IMPORTANT! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.
4. Following the vehicle manufacturer's recommended

procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.

5. When working in the engine compartment the engine should be shut off. Where circumstances require that the engine be in operation, EXTREME CAUTION should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.
6. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
7. Never exceed recommended pressures and always wear safety glasses.
8. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

CAMERA REMOVAL

1. Turn the pivot locks of the aiming assemblies(1) aligning the tabs with the slots in the camera body. Pull the camera from the aiming assemblies(1) and standoff pivot assembly(3).
2. Unplug the 2 pin and 6 pin connectors from the camera. See Figure 2.
3. From the front of the camera bracket, remove the four #8 hex torx screws that secure the aiming adjusters to the camera bracket.
4. On the backside of the camera bracket, remove the one plastite screw(5) and lock washer(6) that secures the standoff pivot assembly(3) and standoff base(4) to the bracket.
5. Remove and discard the aiming assemblies(1), standoff pivot assembly(3), standoff base(4), mounting screws(2 and 5) and lock washer (6).

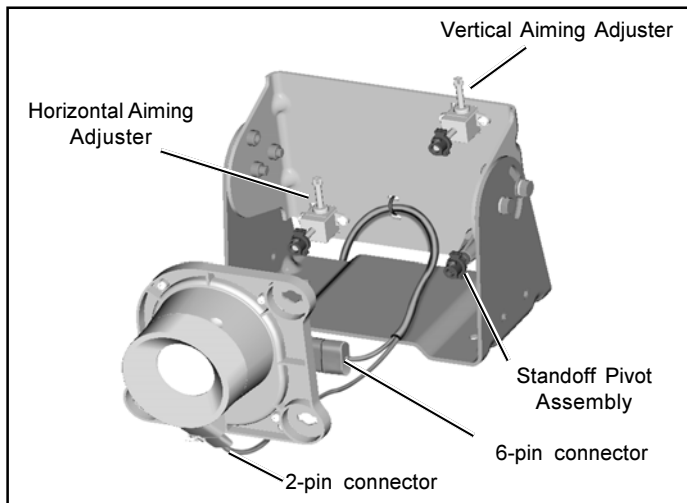


Figure 2 Connecting the Camera Harnesses

AIMING ADJUSTER AND STANDOFF ASSEMBLY INSTALLATION - ASSEMBLE THE STANDOFF PIVOT TO STANDOFF BASE

1. Install the standoff base(4) and standoff pivot assembly(3) in the lower right corner of the camera bracket. Secure with the plastite screw(5) and #10 lock washer(6).
2. Position the aiming assemblies with the adjustment mechanism pointing up when mounted in the position shown in Figure 2. Secure the two assemblies with the four #8 hex torx screws(2). Torque to 17-19 in. lbs.

ATTACH THE CAMERA HARNESS

1. Plug the 2-pin connector of the camera harness into the window heater. Refer to Figure 2.
2. Plug the 6-pin connector of the camera harness into the camera connection. Refer to Figure 2.

ATTACH THE IR CAMERA TO THE CAMERA BRACKET

1. Rotate all pivot locks to a horizontal position.
2. Position the camera onto the aiming assemblies. Refer to Figure 1.
3. Rotate the pivot locks on the ends of the aiming assemblies 1/4 turn clockwise using the aiming adjuster tool. This will lock the camera in position.

The aiming adjusters on the camera bracket allow the forward field of view (FOV) of the camera to be adjusted horizontally and vertically. The adjustment screw head(s) will accommodate an E8 external Torx® or a T15 internal Torx®.

When the camera is mounted, adjust the horizontal and vertical aiming adjusters enough to align the camera FOV with the display. The position of the virtual image presented to the driver and how the virtual image correlates to objects in the road depends directly on camera aiming.

NOTE: Use two people to aim and adjust the camera. One technician should view the virtual image on the display while the other technician aims the camera.

NOTE: Verify that the vehicle is level and that the tires are properly inflated before beginning the camera aiming procedure and that you are not looking up or down a hill.

HORIZONTAL AIMING AND ADJUSTING

Align the display image horizontally with the objects in the road to give the driver a sense of object location.

1. Refer to Figures 3-5 to understand how to properly adjust for the horizontal view, adjust the angle of the camera as needed.

NOTE: Two and one-quarter turns of the horizontal adjuster is equal to one degree of camera movement.

NOTE: Do not tamper with or adjust any factory-installed screws while aiming the camera. Only turn the horizontal aiming adjuster.

VERTICAL AIMING AND ADJUSTING

The virtual image should be aligned vertically so that the horizon appears in the lower one-half to one-third of the combiner or display. Keeping the image at this adjustment should provide a view of the road when the vehicle is driven up and down hills.

1. Refer to Figures 6-8 to understand how to properly adjust for the horizontal view, adjust the angle of the camera as needed.

NOTE: Two turns of the vertical adjuster is equal to one degree of camera movement.

NOTE: It is recommended that the camera adjusters be aimed to view approximately 200 ft (61m) in front of the vehicle. Any thermal objects closer than 200 feet will already be illuminated by the headlamps.

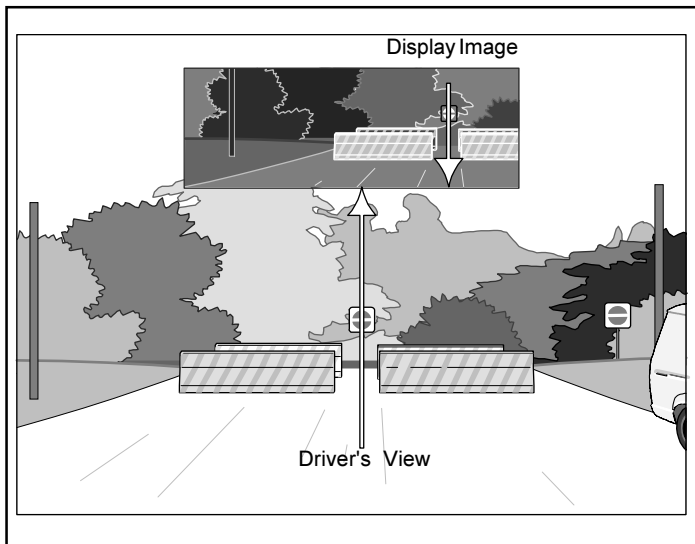


Figure 3 IR camera aimed too far left

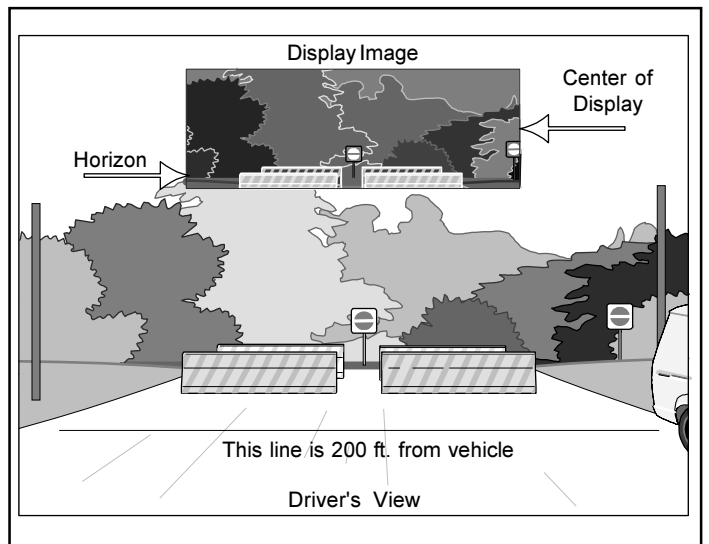


Figure 6 IR camera aimed too high

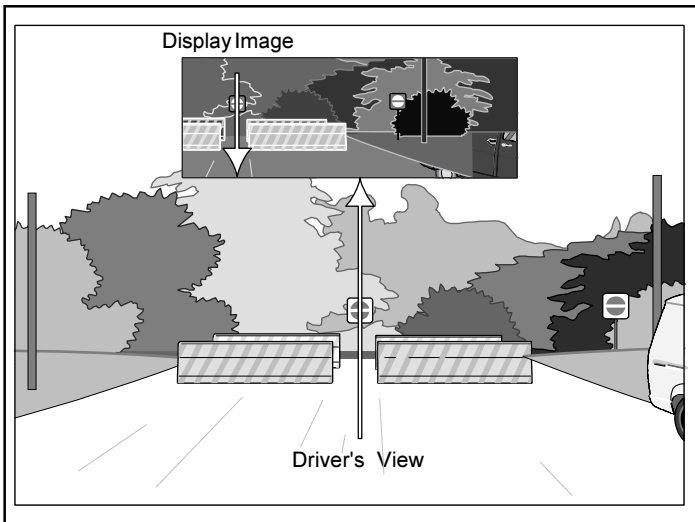


Figure 4 IR camera aimed too far right

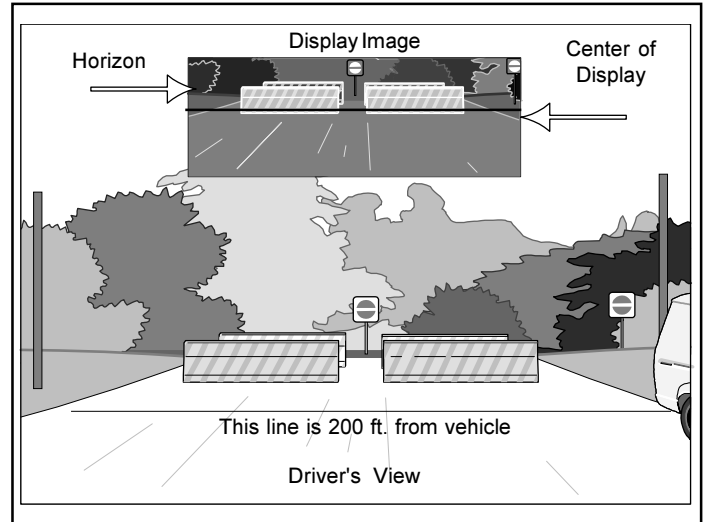


Figure 7 IR camera aimed too low

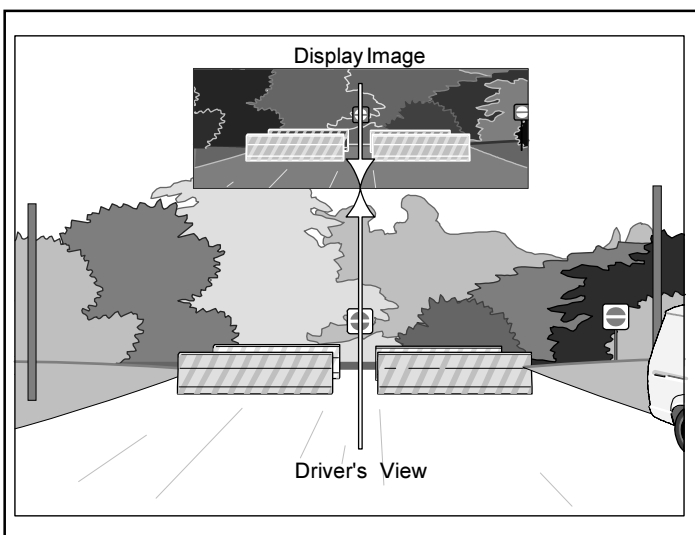


Figure 5 IR camera aimed correctly

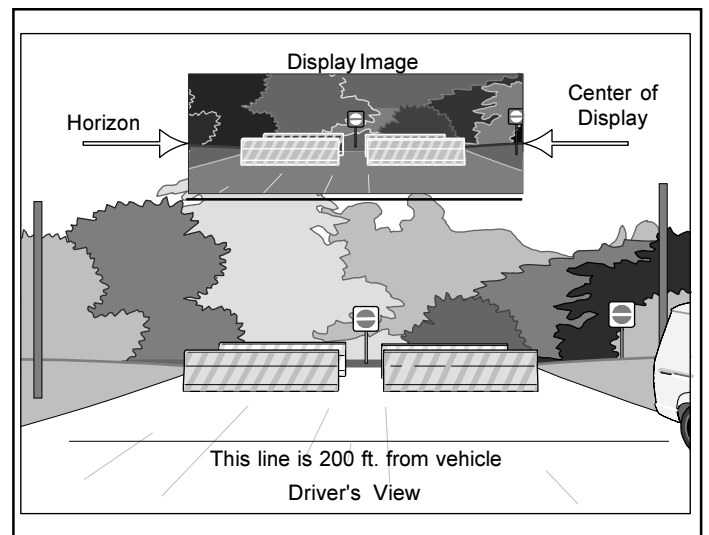


Figure 8 IR camera aimed correctly