Detroit Assurance Lane Departure Warning Camera Installation

54-291

Freightliner Service Bulletin

FLA COE
FLB COE
FLD Conventional
Business Class
FLC 112 Conventional

Century Class Conventional
Argosy COE
Cargo
Columbia

122SD and Coronado
Business Class M2
> Cascadia
108SD/114SD

Description of Revisions: *This bulletin replaces the version dated September 2016. A link is added for the camera mounting template.*

General Information

Use the instructions in this bulletin to replace the Detroit Assurance VRDU camera.

Parts

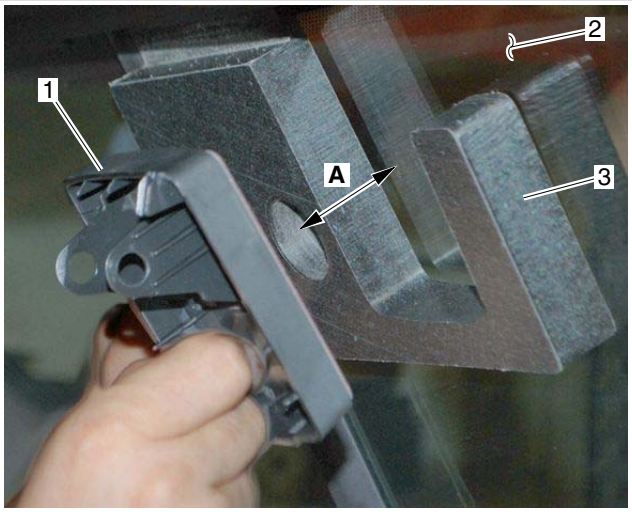
Refer to **Table 1** for camera cover and base part numbers.

Camera Mounting Assembly Parts	
Description	**Part Number**
Cover – Camera, Global Radar	18-67468-000
Cover – Camera Base, Global Radar	A18-67911-000

Table 1, Camera Mounting Assembly Parts

NOTE: A camera mounting training aid has been designed by "DTNA Custom Built Training Aids" and is available through the *Aftermarket Resource Center* (ARC) website. See **Fig. 1**. The training aid can be used as an alternative to the mounting procedure described in this bulletin. Connect the vehicle to DiagnosticLink to verify which parameter is programmed on the vehicle. The order form for the tool can be accessed by clicking the "Training Aids" link located on the lower right-hand side of ARC's home page, then clicking "Detroit Camera Mounting Tool Order Form" on the right-hand side of the page. It is still necessary to order the camera mounting assembly parts described in **Table 1** before the camera can be mounted using this tool.

Check the parameter setting for the VRDU camera in DiagnosticLink before using the training aid. If the training aid is being used on a vehicle programmed with parameter **000 447 36 51**, position the training aid on the passenger-side windshield, so the left edge is mounted 4 inches (100 mm) from the center rubber seal and the top edge sits against the windshield upper rubber seal.



09/10/2015 f670151

A. The training aid is used to position the camera base on the windshield.

1. Camera Base
2. Windshield
3. Camera Mounting Training Aid

Fig. 1, Camera Mounting Training Aid

Installing the Detroit VRDU camera

1. Park the vehicle and apply the parking brakes.
2. Run the engine until the air system is fully charged, then shut down the engine and chock the tires.

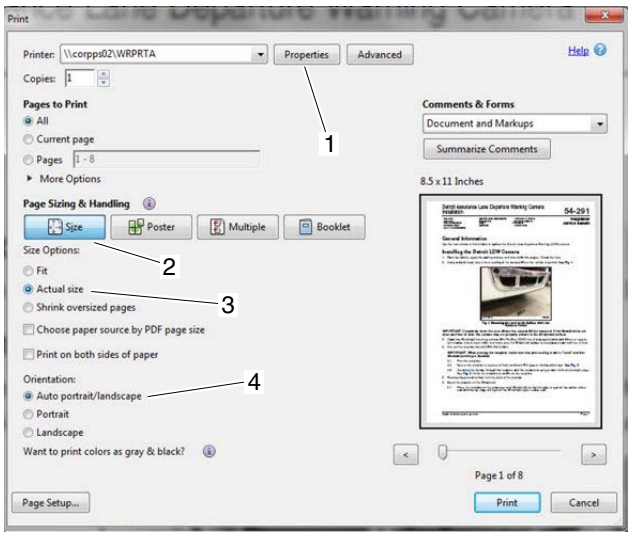
NOTE: Components installed on the windshield may interfere with the mounting template. It may be helpful to remove them *before* installing the VRDU camera.

IMPORTANT: Completely clean the area where the camera will be mounted. If the windshield is not clean and free of grease and dust, the camera may not properly adhere to the windshield surface.

3. Clean the windshield mounting surface with IPA wipe (50/50 mix of isopropyl alcohol and water) or equivalent cleaner. Use a clean towel, and make sure the windshield surface is completely clean and free of grease and dust.
4. Create the template. The template can be found on DTNA Solutions at **dtna.info/SB54291A**.

   IMPORTANT: When printing the template, make sure that the "Actual Size" radio button is selected under the "Size" tab, the "Auto portrait/landscape" radio button is selected under the "Orientation" heading, and that the "1-sided" radio button is selected on the properties screen. See **Fig. 2** and **Fig. 3**.

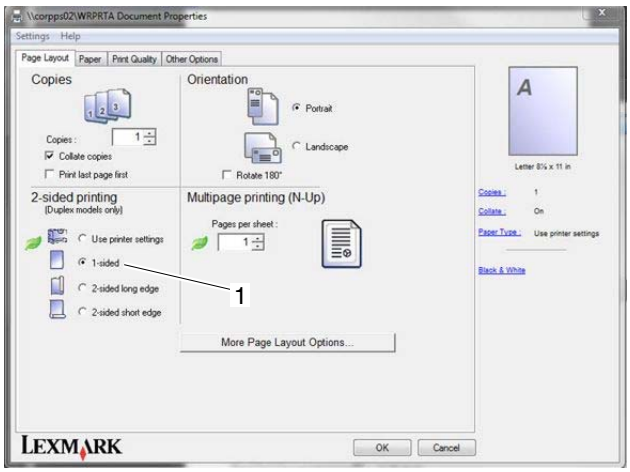
   4.1 Print the template provided on the last page of this bulletin.



04/24/2015 f120336

1. Properties Button
2. Size Tab
3. "Actual Size" Radio Button
4. "Auto Portrait/Landscape" Radio Button

Fig. 2, Print Screen



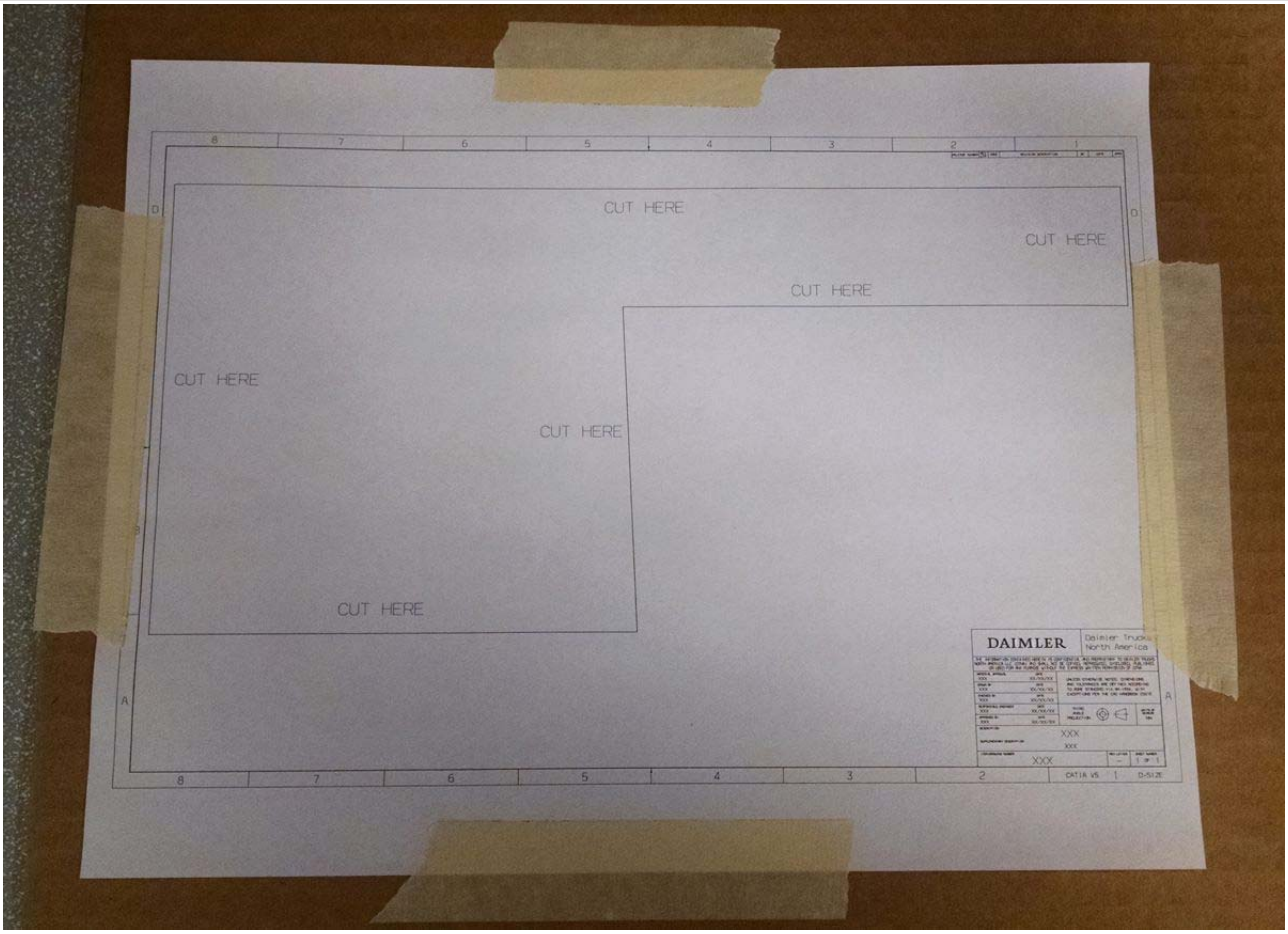
04/15/2015 f120335

1. 1-sided Radio Button

Fig. 3, Document Properties Screen

4.2 Using a ruler, verify the length of the printed ruler graphic on the template. If the length of the ruler graphic does not measure accurately, the template did not scale properly. Repeat this step until the markings on the printed ruler match those of the ruler in hand.

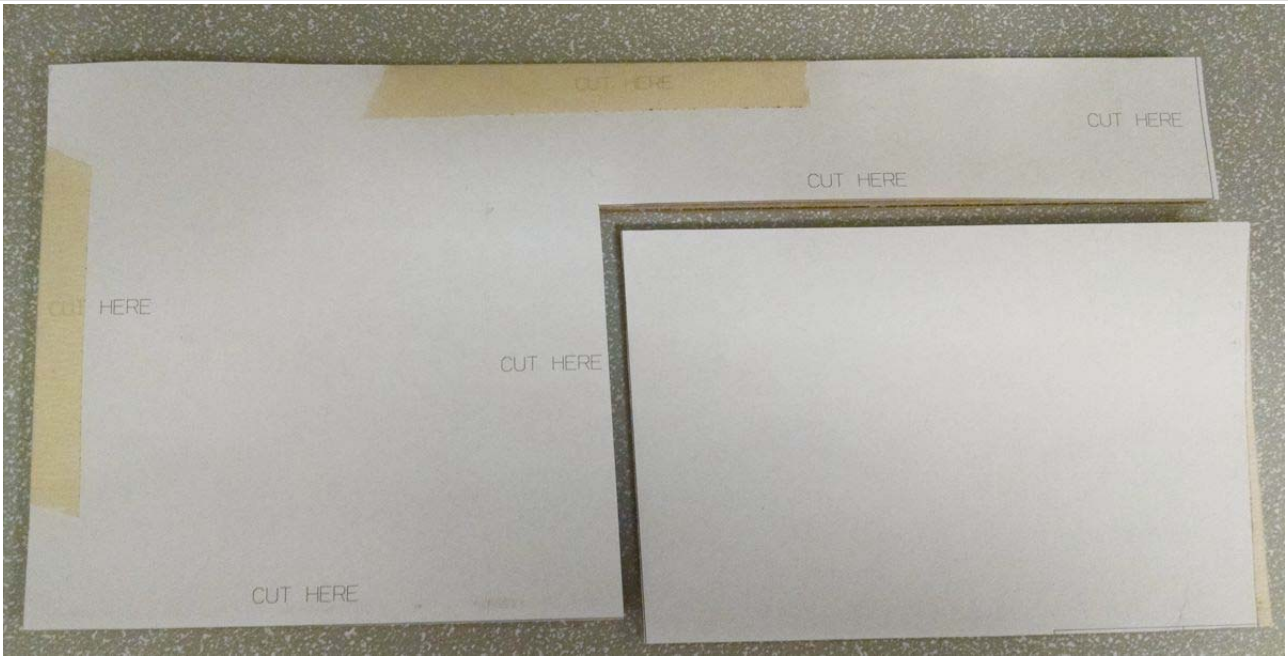
4.3 Secure the template to a piece of thick cardboard with glue or tape. See **Fig. 4**.



04/13/2015 f546164

Fig. 4, Template Taped to Cardboard

4.4 Cut along the border, through the template and the cardboard, using a razor knife and straight edge. See **Fig. 5**. Verify the dimensions shown on the template.



04/13/2015 f546165

Fig. 5, Template Cut with a Razor Knife

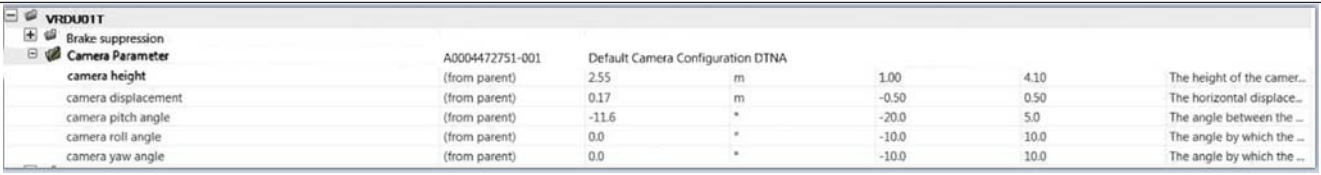
5. Using a digital level, take a level reading of the surface where the vehicle is parked. See **Fig. 6**.

01/17/2013 f545981

Fig. 6, Measuring the Level on the Surface where the Vehicle is Parked

6. Determine the correct mounting location for the camera based on the vehicle parameter setting for the VRDU camera:

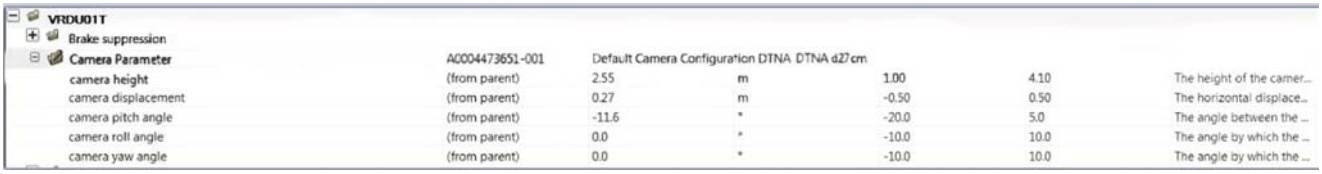
- **000 447 27 51**: Vehicles built before 12/7/2015. See **Fig. 7** for the parameter description in DiagnosticLink. Note that vehicles built before this date may have had the parameter changed to accommodate other components. Verify the correct parameter number by connecting the vehicle to DiagnosticLink and selecting **Detroit Assurance**. The left side of the camera base is 4.7 inches (120 +/- 5 mm) from the right side of the windshield center rubber seal.



09/20/2016 f546610

Fig. 7, DiagnosticLink Description for Parameter 000 447 27 51

- **000 447 36 51**: Vehicles built after 12/7/2015. See **Fig. 8** for the parameter description in DiagnosticLink. The left side of camera base is 8.6 inches (220 +/- 5 mm) from the right side of the windshield center rubber seal.



09/20/2016 f546609

Fig. 8, DiagnosticLink Description for Parameter 000 447 36 51

7. If the vehicle is programmed with parameter **000 447 27 51**, position the template on the passenger-side windshield, so the left edge is against the center rubber seal and the top edge sits against the windshield upper rubber seal.

   If the vehicle is programmed with parameter **000 447 36 51**, position the template on the passenger-side windshield, so the left edge is mounted 4 inches (100 mm) from the center rubber seal and the top edge sits against the windshield upper rubber seal.

8. Tape the template to the windshield.

IMPORTANT: Do not re-use the camera base. If the windshield is being replaced, or other service is performed that requires the removal of the camera base, a new camera base must be installed.

9. Remove the protective liner from the back of the camera base.
10. Install the camera base on the windshield.

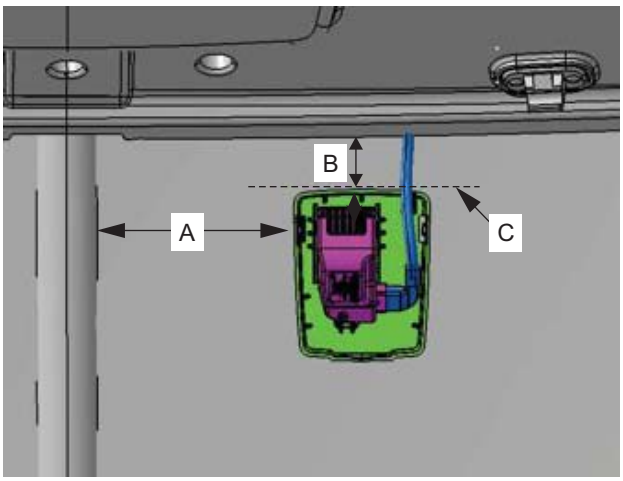
    10.1 Hold the digital level used in step 5 up to the tabs on the camera base. While holding the digital level on the base, hold the bottom of the camera base away from the windshield glass and align the top of the camera base with the template. While maintaining zero level, lower the bottom of the camera base until it contacts the windshield.

    10.2 Verify proper alignment of the camera base.

    Use the dimensions shown in **Fig. 9** for vehicles with parameter **000 447 27 51**.

    Use the dimensions shown in **Fig. 10** for vehicles with parameter **000 447 36 51**.

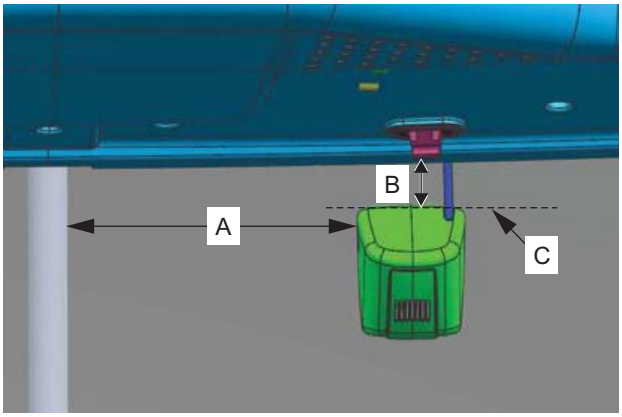
Hold the digital up to the tabs on the camera base. See **Fig. 11**. The level reading should be the same as the reading taken of the surface where the vehicle is parked (±0.4 degrees, with a maximum spec of ±1.5 degrees). If the base is aligned correctly, continue with step 9. If the base is not aligned correctly, remove it immediately before it cures and repeat steps 10.1 and 10.2.



09/21/2016 f546611

A. Horizontal orientation is measured 4.7 inches (120 mm ± 5) from the right edge of the windshield centerline to the edge of the camera base.
B. Vertical orientation is measured 1.3 inches (33 mm ± 5) from the top of the camera base to the bottom edge of the windshield rubber seal.
C. This line is parallel to the upper seal with a maximum roll angle of less than 0.4°.

Fig. 9, Camera Mounting on Vehicles with Parameter 000 447 27 51



09/20/2016 f546612

A. Horizontal orientation is measured 8.6 inches (220 mm ± 5) from the right edge of the windshield centerline to the edge of the camera base.
B. Vertical orientation is measured 1.3 inches (33 mm ± 5) from the top of the camera base to the bottom edge of the windshield rubber seal.
C. This line is parallel to the upper seal with a maximum roll angle of less than 0.4°.

Fig. 10, Camera Mounting on Vehicles with Parameter 000 447 36 51

04/09/2015 f546156

1. Template
2. Camera Base
3. Digital Level

Fig. 11, Aligning the Base with a Digital Level

11. Apply pressure on the base for 30 seconds, then wait 15–30 minutes for the camera base adhesive to set.
12. Connect the camera to the VRDU (Video Radar Detection Unit).
13. Fit the top of the camera into the two tabs on the camera base. See **Fig. 12**.

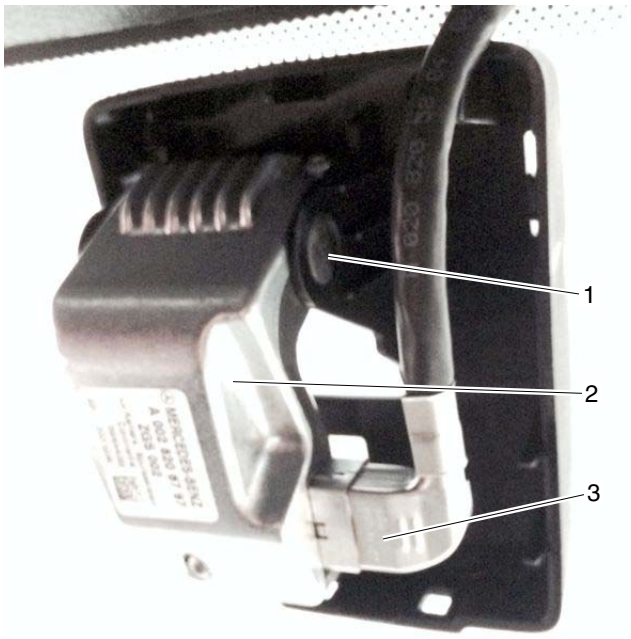
IMPORTANT: Take care when snapping the camera into the lower mounting notch. If the notch is damaged, the camera base must be replaced.

14. Tilt the bottom of the camera forward until it snaps into the lower mounting notch. See **Fig. 13**.

04/09/2015 f546154

1. Tabs

Fig. 12, Camera Base Tabs



04/09/2015 f546155

1. Base Mounting Tabs
2. VRDU camera
3. VRDU Connector

Fig. 13, VRDU camera Installed

15. Attach the camera cover to the base by first aligning the bottom mounting tabs then gently rotating the cover upwards, taking care to position the connector cable so that it feeds through the opening at the top of the cover.

Warranty

This is an informational bulletin only. Warranty does not apply.

Place this edge against upper windshield rubber seal
CUT HERE
CUT HERE
Place this edge against the right side of the windshield center rubber seal
for parameter 0004472751
Place this edge 4 inches (100mm) from the right of the windshield center rubber seal
for parameter 0004473651
CUT HERE
CUT HERE
Inches
1
2
3
4
0
10
20
30
40
50
60
70
80
90
100
Millimeters