60.05.100 Cab Water-Leak Detection and Repair

Cab Water-Leak Detection

If water has been detected inside the cab, use the following procedure to help determine points of entry into the cab. If a leak is not suspected, this method should not be used to locate points of potential water entry, as high pressure air will escape through passages where water will not enter.

⚠ CAUTION

When pressurizing the cab, do not exceed a pressure differential of more than 1 inch H2O (25 mm H2O). Using higher pressures can damage sealed surfaces and create leaks.

1. Apply the parking brakes and chock the tires.
2. Prepare a wash solution of at least one-quarter cup of soap to one gallon of water in a spray bottle.
3. Place tape over the cab exhausters.
4. Close all doors, windows, and vents.
5. With the HVAC system in "Fresh Air" mode, turn the fan blower motor on high.

NOTE: Perform the leak detection test with the HVAC system in the "Fresh Air" mode only. Do not set the system in the "Recirculation" mode.

6. Spray the cab, and sleeper if so equipped, with the wash solution, and look for bubbles. See Fig. 1 . Inspect all applicable areas listed below:
   - windshield center post
   - windshield seal perimeter (especially the upper and lower outboard corners)
   - front wall to A-pillar interface
   - marker lights
   - roof deflector mounts (if so equipped)
   - sleeper roof side windows (if present)
   - satellite antenna
   - sun visor mounts at cab
   - roof joint
   - all roof seams
   - back-wall-mounted components

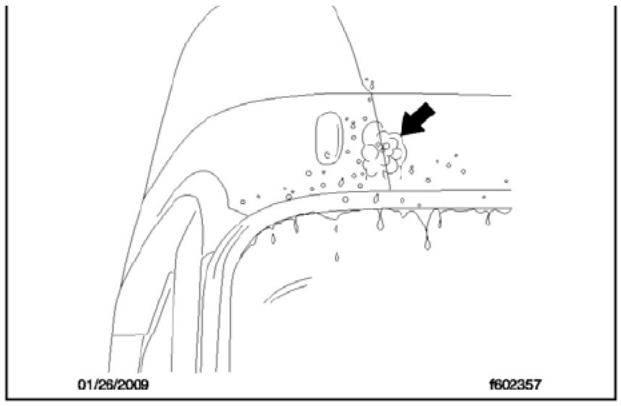


Fig. 1, Cab Water-Leak Detection with Wash Solution

7. Mark areas of suspected leaks.

NOTE: Bubbles around door seals, baggage doors, and along the vehicle side walls will likely not cause water intrusion issues. Bubbles forming at the mirror arm do not indicate a water leak path to the cab interior.

Cascadia vehicles have a wet door system, allowing water to enter the door at the window glass location, run down inside the door and drain out at the bottom. Check the door handles or the mirror to verify that the soap solution is producing the desired bubbles.

Most leaks above the 270 seal on the side- and back-walls (see Fig. 2) will cause dripping on the dash and look like a windshield leak. Water spilling on the dash during vehicle turns indicates that water is trapped and pooling in the header above the windshield.

If small bubbles are found in an area that is not suspected to leak, a repair may not be necessary.

8. Rinse the wash solution off the vehicle with water.
9. Turn off the fan blower motor.
10. Remove the tape from the cab exhausters.

Cab Water-Leak Repair

If a leak is found, the repair method will depend on the area and type of leak. It may be necessary to remove some components, though most leaks should be repairable by sealing the area of the leak with sealant.

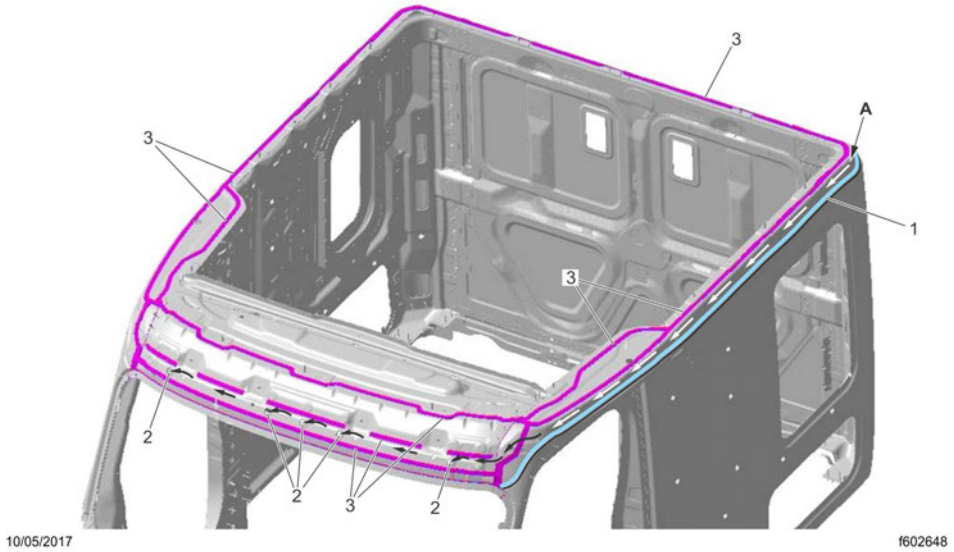
NOTE: On vehicles built since March 2017, all marker lights are glued to the roof. Do not remove these marker lights unless a leak is verified with bubbles or they are burned out.

Leaks in the Windshield Seal

A leak must be verified by the presence of bubbles around the seal. Leaks at the cab/roof joint can also cause bubbles around the windshield seal. Make sure that the cab/roof joint is sealed during the windshield seal replacement. Repair leaks in the windshield seal using the approved method and adhesive. Refer to Section 60.02 for instructions on windshield seal repair.

Leaks in the Roof Joint Area

The primary seal between the roof and the cab is the adhesive that bonds them. See Fig. 2 . The 270 sealant that is visible from the outside is the secondary seal; it must not have any holes or gaps. If this area must be resealed, cut out the damaged section, then pull on the remaining sealant. If it is properly bonded, it should tear and leave sealant attached to the surface. If it is not properly bonded, remove and replace the sealant. Repair leaks in the roof joint area without removing the roof cap, if possible. Seal the leak with sealant.



A. Water can flow to the header above the windshield, causing dripping on the dash.

1. 270 Sealant
2. Holes for Marker Light Wiring
3. Roof Adhesive

Fig. 2, Roof Joint