

Deep Space Lighting

VOLVO VNL Bi-XENON HEADLAMP KIT

Installation Instructions

Estimated Installation Time: 15-45 minutes

Tools Needed:

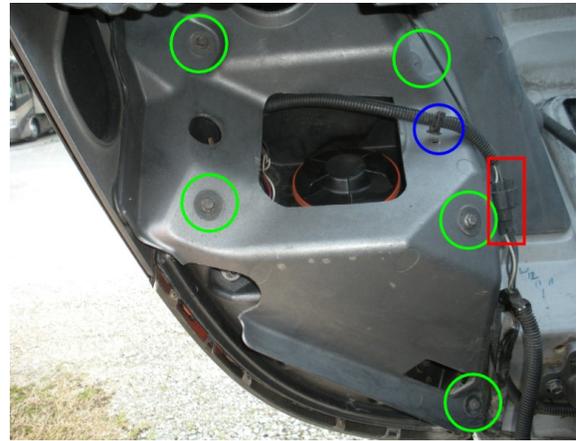
#2 Philips screwdriver

10mm socket and ratchet

Before starting, make sure your headlamp is a good candidate for retrofitting. Look for moisture, and repair before starting. Hazed lenses should be polished and clear-coated for optimal performance, but that holds true with or without the kit. The lenses can be polished before or after installation. If the truck has been exposed to road salt, soaking the headlamp mounting bolts with a penetrating oil is advised.

1. Remove headlamp:

- a) Make sure headlights are turned off, and raise hood. Pull up on gray retaining clip from headlight electrical connector (red rectangle).
- b) Squeeze tab while pulling upward to remove lamp harness from vehicle harness.
- c) Separate retaining clip holding harness (blue circle) to hood.
- d) Remove 5 10mm bolts (green circles) from headlamp while supporting headlamp to prevent it from falling. *NOTE: Some trucks will only have 4 mounting bolts.*



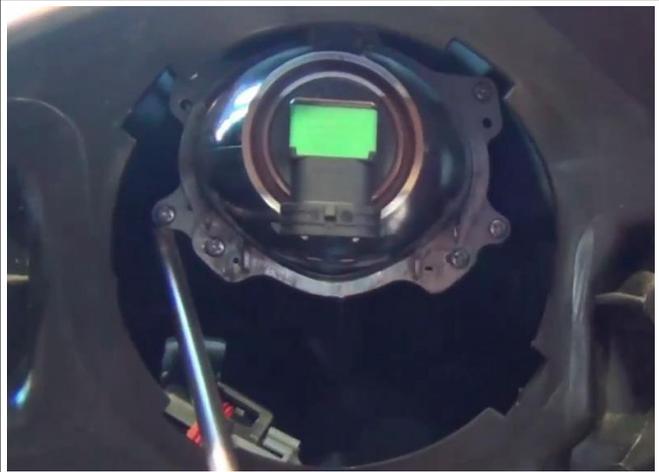
2. Take headlamp to a table for disassembly. Lay soft towel under lamp to protect against scratches.
3. Remove both bulb access covers by turning counter-clockwise.



4. Unplug wiring harness from low beam (upper) bulb.



5. Remove 4 Phillips screws holding low beam projector in place. Remove projector through bulb access hole.



6. Remove projector through bulb access hole.



7. Remove bulb retaining nut and spring from bi-xenon projector. Remove xenon bulb from packaging. Install bulb into bi-xenon projector. There is a locating tab on both the bulb to orient the bulb properly. Re-install spring and bulb retaining nut.

Do not touch the glass surface. If you do, or if there is any other dust/dirt on the bulb, it should be cleaned with an alcohol wipe.

8. Connect high beam solenoid harness (brown and white wires) to projector, and insert loose terminals into black plug shell. The connector is located on the lower left of the front of the projector.



9. Loosely install bi-xenon projector in headlamp, starting but not tightening screws removed in step 3. Tighten screws once all 4 screws are started.



10. Connect *Low Beam Input* connector on adapter harness to connector removed from low beam bulb in step 9. Verify that plug is oriented correctly.



11. Connect adapter harness *High Beam Solenoid* connector to the connector attached to the bi-xenon projector (small red and black wires). Make sure connectors are inserted straight to avoid bending pins.



12. Unplug headlamp harness from high beam (lower) bulb, and connect the plug removed from the high beam bulb to the *High Beam Input* connector on the adapter harness.



13. Connect single-pin wires from ballast to bulb adapter leads, and connect adapter harness *Ballast* connector to ballast input.



14. Connect bulb adapter to xenon bulb by aligning tabs on bulb, and twisting clockwise until locked. Do not use excessive force.



15. Secure ballast inside headlamp housing and reinstall headlamp housing onto hood. Reconnect headlamp harness to vehicle harness, and confirm headlamp operation with engine running.



16. Reinstall bulb access covers, close hood, and verify proper headlight alignment.

There is a single *E6* external Torx adjustment screw for setting the headlamp's vertical alignment. When aimed at a wall, the left cutoff in the low beam pattern on the wall at 25 feet should be approximately 3.5" below the center of the projector.

Troubleshooting Tips

Symptom:	Cause:	Remedy:
Short circuit error on low beam circuit	Low Beam Input connector installed backwards	Unplug and rotate connector and reconnect.
Lights go out when switching to high beams (with open circuit error on high beam circuit)	High beam input connector not installed OR high beam solenoid connector connected to factory high beam bulb	Check high beam input connector; make sure high beam solenoid connector is connected to solenoid (brown and white) wires and that nothing is attached to factory high beam bulb.
Light pattern doesn't change when switching to high beams	Solenoid connector (brown and white wires) not installed	Confirm that wires from solenoid are connected to adapter harness, and that small plug is connected to front of projector housing.
No light on low beams, but lights work on high beams	Ballast and high beam solenoid connectors reversed	Remove both connectors and reconnect to correct components

Prefer to watch an installation video? Scan the QR code below, or go to <https://www.youtube.com/watch?v=beF8ShmNlo4>

