

HEADLAMP ASSEMBLY REPLACEMENT INSTRUCTIONS

RECOMMENDED TOOLS:

- Penetrating oil spray
- 10 mm deep-well socket and ratchet wrench
- T30 Torx screwdriver
- Locking pliers or bench vise
- Epoxy or similar adhesive to re-fasten studs to hood bosses, if needed
- #2 Phillips screwdriver

SAFETY & PREPARATION TIPS:

(Note: To minimize the risk of seized fasteners, spray the fasteners with penetrating oil several hours before beginning headlamp replacement.)

- Ensure the truck is off with no power supplied to the headlamps.
- Unlatch the hood latches and fully open the hood.
- Optional: Remove the splash guards behind the headlamps before you begin to allow more space and easier access to the headlamp area.

1 REMOVAL OF OLD HEADLAMP:

- Disconnect the truck wiring harness by removing the two connectors on the back of each headlamp.
- Remove any zip ties securing the harness to the headlamp.
- Using a 10 mm deep-well socket wrench, remove the nuts on the lower two mounting studs.
- If the studs are seized to the nuts or loose within the hood bosses, remove them completely from the hood. Use the locking pliers or bench vise to secure the hood-side threads of the stud while using the socket and ratchet to remove the nut.
- Using a T30 Torx screwdriver, remove the top mounting screw located on the top mounting arm of the headlamp.
- Remove the headlamp from the hood.

RE-FASTEN MOUNTING STUDS TO THE HOOD (NOTE: THIS STEP IS ONLY REQUIRED IF REPLACING STUDS FROM THE HOOD):

- It is recommended to install new mounting studs, which can be purchased through your local Freightliner dealer (DTNA PN 23-13653-000).
- To ensure a secure connection with the hood, use an epoxy or other adhesive suitable for bonding fiberglass to metal. Apply to the boss and threads before installing the new stud.
- Wait until the epoxy/adhesive has set before proceeding.

2 INSTALLATION OF NEW HEADLAMP:

(Note: If any of the fasteners are significantly corroded, replace as needed.)

- M6x1.0x25mm T30 Panhead Machine Screw, DTNA PN 23-12781-725
- M6x1.0 Nut, DTNA PN 23-13036-006
- ¼" ID x 1" OD Flat Washer, DTNA PN 23-10900-225
- Double Ended Stud, M6x1.0 + Hi-Lo Thread, DTNA PN 23-13653-000

See above for replacement instructions.

- Remove the headlamp from the packaging and peel off the protective lens film.
- Align the lower two mounting holes to the studs and push/rotate the new headlamp into place so that the lower mounts are fully on the hex portion of the studs and the upper mounting hole is aligned to the threaded insert in the hood. Continue holding it securely with one hand.
- Secure the upper mounting arm by installing the screw (w/washer) with a T30 Torx screwdriver.

- Thread the nuts (w/washers) onto the studs by hand first to ensure they screw on easily without cross-threading.
- Secure to the lower two mounting studs by fastening the two nuts with a 10 mm deep-well socket wrench.

WARNING: Do NOT use an impact driver to fasten any of the mounting points. Over-tightening can crack the mounting tabs and void the warranty. It is recommended to use manual tools such as a socket wrench or screwdriver. A drill driver may be used if equipped with a low torque setting to prevent tightening beyond 7 N-m.

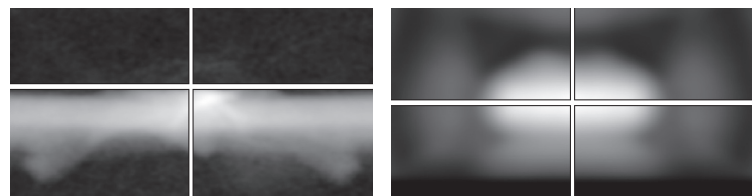
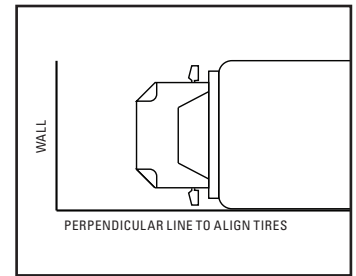
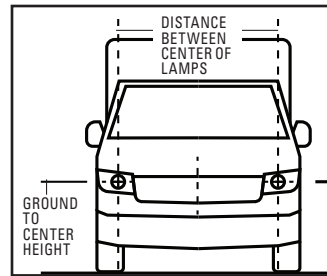
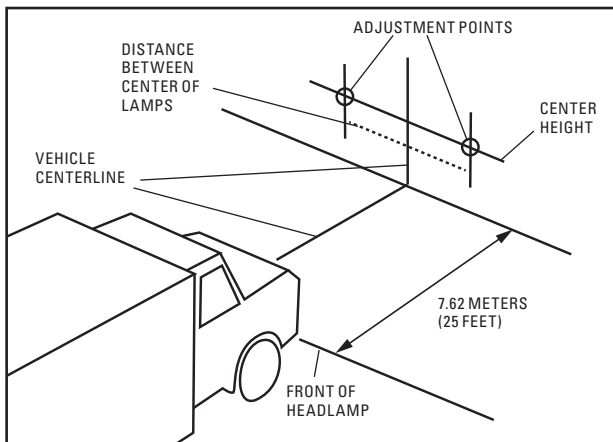
- Inspect the harness connectors/terminals for dirt or corrosion and clean as appropriate.
- Connect the two wiring harness connectors to the back of the headlamp.
- Secure the wire harness by placing a zip tie through the small hole on the inboard mounting tab and around the wire harness.
- Reinstall the splash guards if they were removed.
- Lower the hood and fasten both latches.

3 CHECK HEADLAMP FUNCTIONALITY:

- Turn on the truck and place the headlamp switch in the “ON” position.
- Check that the Low Beam (white) and Park (low-intensity amber) are working properly.
- Place the stalk switch in the “High Beam” position and ensure proper functionality.
- Turn on the Hazard switch to ensure Turn signal (high-intensity amber) functionality.
- Turn the headlamp switch to the “OFF” position, start the engine, and disable the Parking brake while keeping the brake pedal firmly pressed to confirm the truck is using the Low Beam as DRL (daytime running lamp).
- Certain vehicles will light the amber Turn function as DRL, resulting in inadequate brightness, or use a PWM signal to light the Low Beam function as DRL, resulting in flickering. Refer to Technical Service Bulletin FTL 54-384 for additional details on parameter updates needed for M2 Legacy units and other vehicles with non-standard parametrization.

4 HEADLIGHT AIMING:

- All new headlamps must be properly aimed to ensure the best driver experience and to avoid excessive glare to other drivers.
- Failure to properly aim the headlamps can result in noncompliance with state/federal regulations.
- Turn off overhead and other shop lighting to make it easier to see the Low Beam pattern.
- If outside, wait until evening or nighttime so that it is dark enough to see the Low Beam pattern.
- For proper aiming, park the vehicle on level ground facing a flat wall or garage door.
- The headlamps should be 25’ away from the wall/door.
- Find the small, circular fiducial marking on the headlamp lens directly in front of the Low Beam and measure the height from the ground to this marking. Using tape or other means, mark a horizontal line on the wall/door at the same height from the ground.
- While blocking the light from the opposite headlamp, use a manual #2 Phillips screwdriver to turn the adjuster mechanism on the back of the headlamp to align the horizontal cutoff line at the top of the Low Beam pattern to the line on the wall/door.
- Repeat for the opposite headlamp.



LOW BEAM

HIGH BEAM

