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Coding Information

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Title: Headlight Condensation or Frost

Applies To: All composite headlights (excludes sealed beam headlights such as on WorkStar, Paystar and 9900i)

CHANGE LOG

Initial release

DESCRIPTION

Condensation, fog, or moisture inside the lens of a headlight is common and expected under certain environmental conditions. This article describes how to determine whether the symptom is normal, or if further action is necessary.

SYMPTOM(s)

Customer Complaint(s):

- Frost, fog, or condensation is visible within the lens of a headlight.
- The condition does not clear on its own

INSPECTION STEPS

Pre-Inspection:

1. Describe the environmental conditions present just before or during the observed symptoms
 - a) Temperature
 - b) Humidity
 - c) Precipitation

Inspection:

1. Observe whether or not condensation is currently visible
2. Look for cracks on lens
3. Check for loose electrical connection

DIAGNOSTIC STEPS

Condensation is a normal and expected condition that should usually clear itself within one hour. In conditions such as very high humidity, heavy precipitation, or extreme cold, the clearing time can be much longer. In extended periods of extreme weather, if the vehicle remains outside, the condition may not clear until the extreme weather subsides.

Diagnostics beyond general inspection are not recommended, and lights should NOT be replaced, unless the condensation has failed to clear or nearly clear under one of the following conditions:

1. Customer has driven the vehicle for at least one hour in dry weather conditions, with temperatures above freezing.

OR

2. Vehicle has first been allowed to reach room temperature in a dry environment such as a garage, and then parked for at least one additional hour. This process could take longer if the vehicle has been cold soaked in extreme cold conditions.

RESOLUTION

If the moisture clears under the conditions outlined under Diagnostic Steps, no action should be taken as the headlights are performing as intended.


If the moisture does not clear OR if there is dirt and/or puddles of water (more than just water droplets on the lens itself) then the source of the intrusion should be identified. Check the bulb connectors/covers and ensure they are sealing properly. If they are not, reinstall and recheck. If this does not resolve or if the connectors/covers look appear to be damaged/defective, replace the offending component(s) as replacing the entire housing would be considered an over-repair. If the connectors/covers are sealing properly, then check for a crack in the lens or a compromise in any of the joints of the headlight housing itself. If the housing is found to be defective, it should be replaced. Note: Damage due to external/physical damage are not considered warranty.

ADDITIONAL RESOURCES

For headlight removal/installation or adjustment, refer to the Truck Master Service Manual corresponding to your truck model.

For headlight diagnostic codes or troubleshooting, refer to Electrical System Troubleshooting Guide corresponding to your truck model.

For circuit diagrams, refer to Electrical Circuit Diagrams corresponding to your truck model.

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