

# Technical Service Bulletin



## 94 Moisture accumulation in headlamps

94 13 01 2028277/5 January 2, 2013. Supersedes Technical Service Bulletin Group 94 number 12-98 dated November 21, 2012 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Q7	2010-2014	All	Not Applicable

## Condition

REVISION HISTORY		
Revision	Date	Purpose
5	-	Revised <i>Service</i> (added air duct install) Revised <i>Warranty</i> Revised <i>Required Parts and Tools</i>
4	11/21/12	Revised <i>Service</i> Revised <i>Warranty</i> Revised <i>Required Parts and Tools</i> Revised Header data (added model years)
3	10/24/12	Revised <i>Required Parts and Tools</i> Revised <i>Production Solution</i>
2	3/1/12	Revised <i>Service</i> Revised <i>Required Parts and Tools</i>
1	12/20/2011	Original publication

## Customer Complaint:

- Considerable moisture present in headlamp.
- The moisture disappears only after extended drives (greater than 10 minutes).

## Workshop Findings:

- No external damage to headlamp which could introduce moisture.



*Figure 1. Moisture in headlamp.*

## Technical Background

Humid air settles on the inside of the glass, causing moisture to appear on the inside of the headlamp lens. Because of the headlamp circulation system, outside air is allowed to flow through the headlamps. The open, water-protected ventilation system (needed for pressure compensation) creates different “ climate zones” inside the headlamp, where the lens is either warmed up by the light or cooled down by passing air.

When high air humidity and temperature differences exist between the inside of the headlamps and the outside, condensation can form on the inside of the lens, especially in cold and wet weather. The moisture in the headlamps can be compared with condensation on the windshield, which is cleared by the "defroster vent". This moisture buildup can happen for example: after a car wash, after steam cleaning of the engine or the front end, or after overnight temperature changes.

This condition is more easily visible with headlamps made from clear glass. The moisture is an *optical condition* which **does not** affect the headlamp function (light performance) and does not lead to corrosion nor does it lead to damage of the internal headlamp parts.

This condition is common to all exterior vehicle lights, and can occur on every headlamp, fog lamp, or rear lamp.

## Production Solution

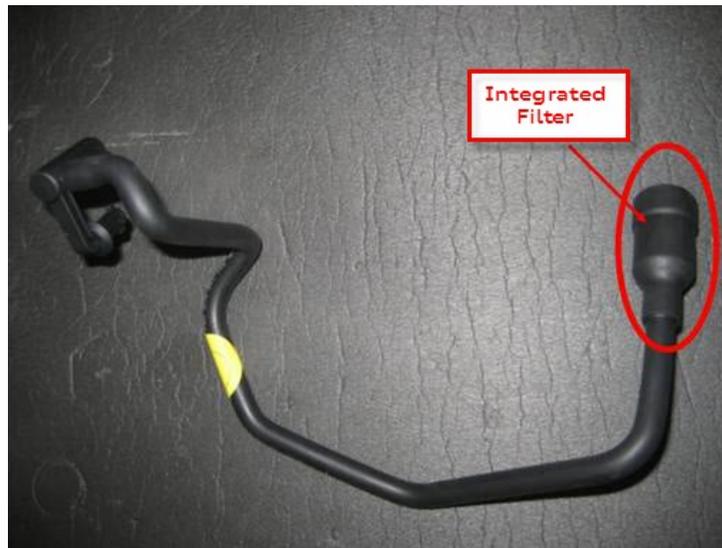
Optimized headlamp ventilation hose placed into production for all XENON headlamps.

## Service

1. Remove the headlamps and dry the inside using compressed air or hot air blower.

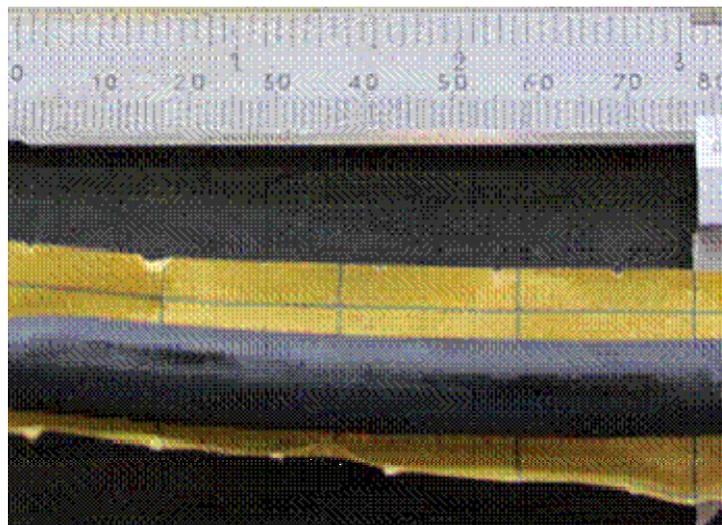
2. If vehicle's build is prior to VIN # \*CD004736, replace the headlamp ventilation hose for each headlamp with the new part number to help reduce any further humidity ingress into the headlamps (see Part information table below). Otherwise, move to step 3.

The updated ventilation hose can be recognized by the integrated filter (Figure 2).



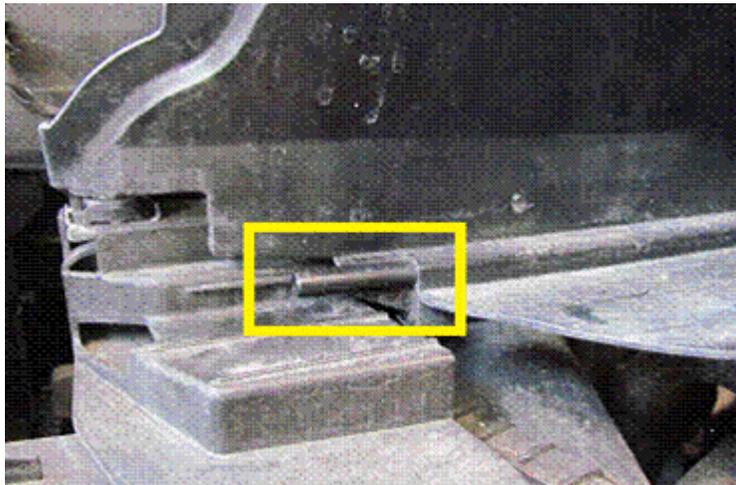
*Figure 2. Updated ventilation hose with integrated filter.*

3. Cut two sections of butyl cord sealant, 8cm long each (Figure 3).



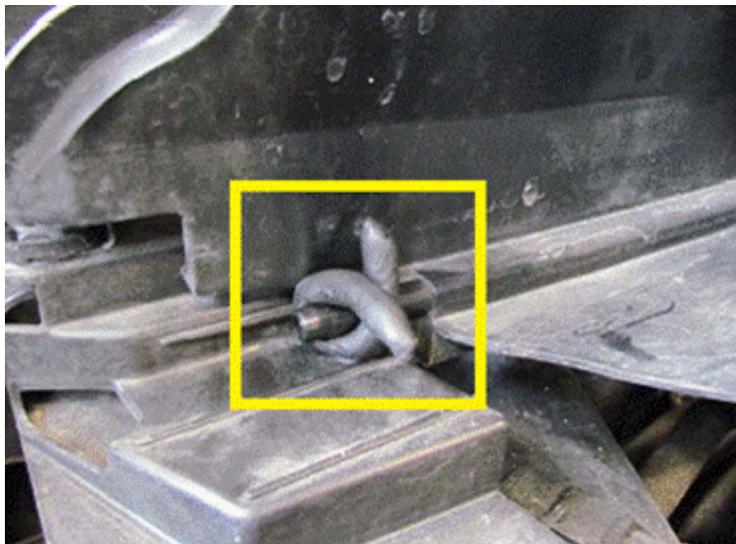
*Figure 3. Butyl cord sealant, 10mm diameter.*

4. Each headlight ventilation guide tube must be sealed to protect against further moisture ingress (Figure 4).



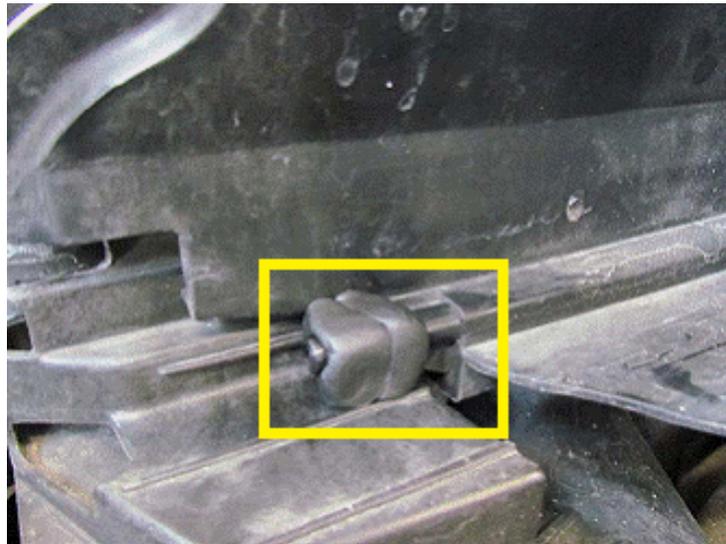
*Figure 4. Headlamp ventilation guide tube.*

5. Wrap butyl cord sealant around the left and right ventilation tubes, taking care not to block the air passage tube (Figure 5).



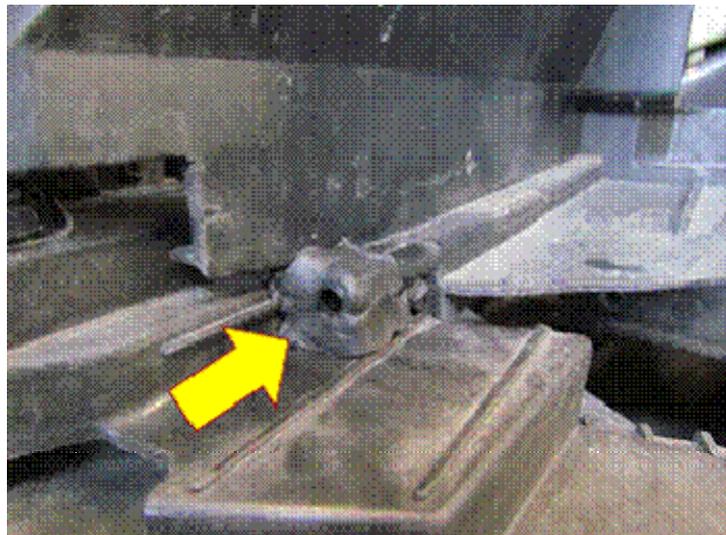
*Figure 5. Initial butyl cord shown on guide tube.*

6. Knead the butyl cord sealant in place. The butyl sealant must be excessive enough so that the headlamp housing squeezes it and creates a robust seal at the housing (Figure 6).



*Figure 6. Butyl cord kneaded in place.*

7. Leave an uncovered section of the air tube so that there is no chance the sealant will clog the air passage tube (Figure 7).



*Figure 7. View of direction of headlamp engagement, with appropriate butyl cord application.*

8. Reinstall headlamps. The headlamp housings will take more force than usual to install, as the butyl must be compressed down and backwards.



**Tip:** When installing the headlamp, do *not* work back and forth during reinstallation, as this will disrupt the butyl seal. If this occurs, remove the headlamp completely and knead the sealant back in place to ensure a good seal.

If the headlamps were removed after butyl cord was already installed from a prior procedure, remove old sealant and replace with new sealant.

9. Check vehicle for left and right air ducting for exiting air behind charge air coolers. Vehicles built from June 2010 will not have these exit air ducts installed. Check vehicle regardless of build date. If air ducts are not installed, follow instructions below.
10. Remove front wheels and wheel housing liners. The rear of the charge air coolers will be exposed (Figure 8).



*Figure 8. View of charge air cooler with wheel well liner removed*

11. Locate exit air duct attachment hooks on the left and right charge air coolers (Figure 9 and 10).



*Figure 9. Lower exit air duct attachment point to charge air cooler.*



*Figure 10. Upper exit air duct attachment points to charge air cooler.*

12. Affix left and right exit air ducts over the rear of the charge air coolers (Figure 11).



*Figure 11. Charge air cooler exit air duct installed.*

13. Inspect exit air duct attachment points to be sure ducts are engaged properly over charge air cooler hooks (Figure 12).



*Figure 12. View of exit air duct affixed to mounting hook.*

14. Reinstall wheel well liners and wheels.
15. Please inform the customer the new ventilation hoses and sealant are only to help reduce the moisture condition, but will not eliminate this condition completely. Moisture in the headlamp lens is normal and can occur even with the improved filtration.

# Technical Service Bulletin



## Warranty

<b>Claim Type:</b>	Use applicable claim type. If vehicle is outside any warranty, this Technical Service Bulletin is informational only.		
<b>Service Number:</b>	9415		
<b>Damage Code:</b>	0010		
<b>Labor Operations:</b>	Remove and reinstall both headlamps	9415 2001	50 TU
	Modify both headlamps and mounting	9415 5099	40 TU
	Installation of left and right air ducts	6616 2000	110 TU
<b>Diagnostic Time:</b>	GFF – Checking and clearing fault codes included in existing labor operations	No allowance	0 TU
	Road test prior to service procedure	No allowance	0 TU
	Road test after service procedure	No allowance	0 TU
	Technical diagnosis at dealer' s discretion (Refer to Section 2.2.1.2 and Audi Warranty Online for DADP allowance details)		
<b>Claim Comment:</b>	As per TSB #2028277/5		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

## Required Parts and Tools

Part Number	Part Description	Quantity
4L0941717A	Left Headlamp Ventilation Hose	1 (if necessary)
4L0941718A	Right Headlamp Ventilation Hose	1 (if necessary)
AKD49701004R10	Butyl Cord Sealant	0.1
7L0117339	Left charge air cooler exit duct	1 (if necessary)
7L0117340	Right charge air cooler exit duct	1 (if necessary)

## Additional Information

The following Technical Service Bulletin(s) will be necessary to complete this procedure:

- TSB 2012749, *94 Exterior lights, moisture accumulation*

All parts and service references provided in this TSB are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.