

## Technical product information

|                        |   |
|------------------------|---|
| <b>Topic</b>           | HVAC refrigerant leakage - Diagnosis guidelines |
| <b>Market area</b>     | Bentley: worldwide (2WBE)                       |
| <b>Brand</b>           | Bentley   |
| <b>Transaction No.</b> | 2069806/1                                       |
| <b>Level</b>           | EH  |
| <b>Status</b>          | Approval  |
| <b>Release date</b>    |   |

### New customer code

| Object of complaint  | Complaint type                             | Position |
|--|--|----------|
| air conditioning -> heating, cooling -> automatic A/C mode | functionality -> cannot be activated       |          |
| air conditioning -> heating, cooling -> manual A/C mode    | functionality -> without function / defect |          |
| air conditioning -> cooling                                | component / consumables                    |          |

### New workshop code

| Object of complaint                       | Complaint type              | Position |
|---|-----------------------------|----------|
| air conditioning -> cooling -> evaporator | leaks -> leaking            | front    |
| air conditioning -> cooling -> evaporator | leaks -> leaking connection | front    |

## Vehicle data

### All Models

#### Sales types

| Type | MY   | Brand | Designation | Engine code | Gearbox code | Final drive code |
|------|------|-------|-------------|-------------|--------------|------------------|
| ***  | 2004 | E     |             | *           | *            | *                |
| ***  | 2005 | E     |             | *           | *            | *                |
| ***  | 2006 | E     |             | *           | *            | *                |
| ***  | 2007 | E     |             | *           | *            | *                |
| ***  | 2008 | E     |             | *           | *            | *                |
| ***  | 2009 | E     |             | *           | *            | *                |
| ***  | 2010 | E     |             | *           | *            | *                |
| ***  | 2011 | E     |             | *           | *            | *                |
| ***  | 2012 | E     |             | *           | *            | *                |
| ***  | 2013 | E     |             | *           | *            | *                |
| ***  | 2014 | E     |             | *           | *            | *                |
| ***  | 2015 | E     |             | *           | *            | *                |
| ***  | 2016 | E     |             | *           | *            | *                |
| ***  | 2017 | E     |             | *           | *            | *                |
| ***  | 2018 | E     |             | *           | *            | *                |
| ***  | 2019 | E     |             | *           | *            | *                |
| ***  | 2020 | E     |             | *           | *            | *                |
| ***  | 2021 | E     |             | *           | *            | *                |
| ***  | 2022 | E     |             | *           | *            | *                |
| ***  | 2023 | E     |             | *           | *            | *                |
| ***  | 2024 | E     |             | *           | *            | *                |

## Documents

| Document name                |
|------------------------------|
| <a href="#">master.xml</a>   |
| <a href="#">hvacword.doc</a> |

## Customer statement / workshop findings

### Customer statement:

HVAC not cooling

Or

HVAC cooling less than expected

### Workshop findings:

HVAC refrigerant leakage confirmed

#### CAUTION

DO NOT UNDER ANY CIRCUMSTANCES INSTALL TRACER ADDITIVES INTO THE HVAC SYSTEM



Before conducting any work on the HVAC system the operative **MUST** refer to the following within Rep.Gr 87

- Refrigeration system - Safety and general information

## Technical background

It has been observed that some HVAC components have been incorrectly diagnosed and replaced

After the components were returned for inspection no faults were found

This TPI relates to HVAC components being incorrectly diagnosed and replaced, in some cases the leak could have been cured by only replacing O-rings

#### CAUTION

The leaks in these scenarios were repaired after component replacement however as the parts were not at fault the actual fix of the leak would have been resolved by replacing O-rings only

#### NOTICE

IMPORTANT NOTICE: Before proceeding the operative should check to confirm there are no VIN applicable HVAC/refrigerant leak related TPI's for example TPI 2069806/-

Workshop diagnosis based on the customer complaint could be as follows:

- HVAC is not cooling or the HVAC is not effective due to leakage of the refrigerant
- Refrigerant recovered from the system shows a low volume or no refrigerant at all
- Leakage is suspected from the compressor as no other leakage source was found

#### NOTICE

please refer to the examples shown below (Figures 1,2 and 3) of leaks found on a HVAC compressor



Figure 1



Figure 2

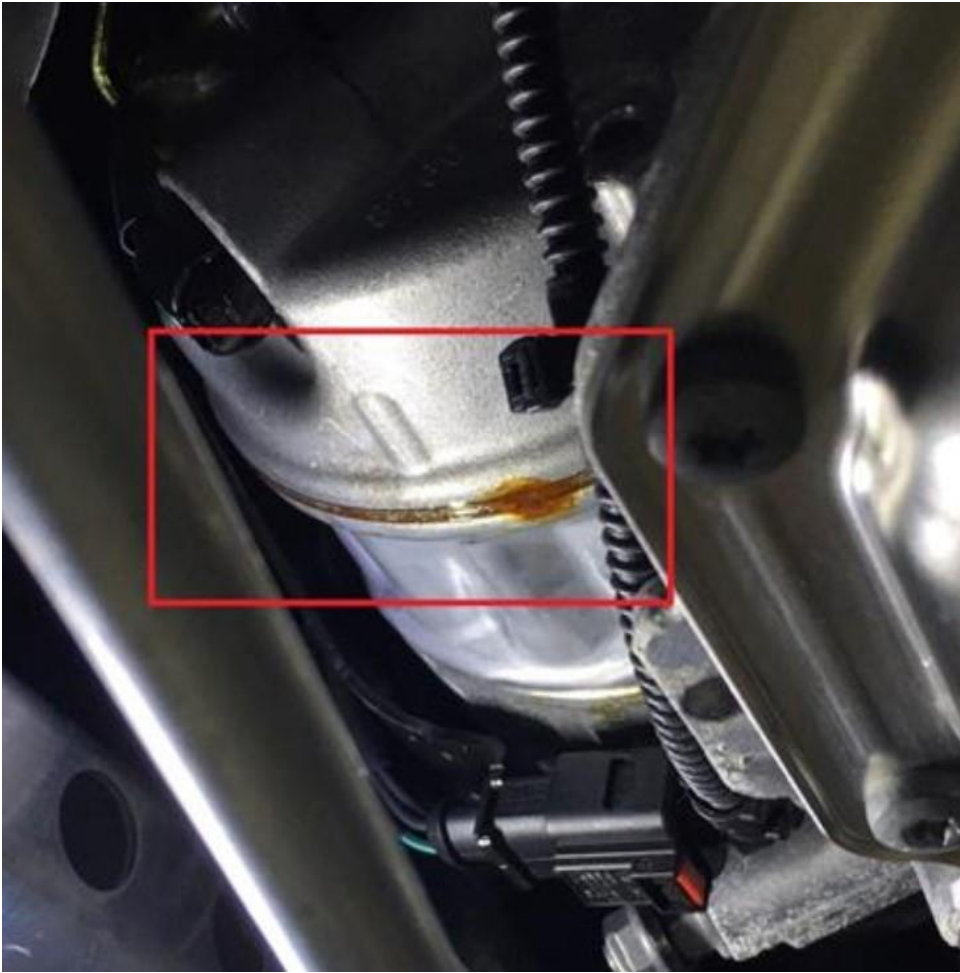


Figure 3

**⚠ CAUTION**

CAUTION: In the event the HVAC sniffer tool traces a HVAC leak from any of the outlets (Figure 4)



Figure 4

Or

A complaint is received that refrigerant is evident within the cabin the operative **MUST** first ensure that a leak is not evident within the plenum chamber or around the centre console (Figures 5 and 6) as refrigerant could be leaking into the plenum chamber/cabin and recirculated back into the cabin as this could lead to misdiagnosis and/or incorrect part replacement



Figure 5



Figure 6



**In the event that leakage is suspected from the thermal expansion valve (TXV) the thermal expansion valve can be replaced when the HVAC unit is fitted within the car**

- The operative must first refer to the attached flow chart before proceeding with any diagnosis or parts replacement
- Before conducting any work on the HVAC system the operative MUST refer to the following within Rep.Gr 87
- Refrigeration system - Safety and general information
- Refrigerant oil - Special instructions
- Refrigeration system - To discharge and charge

**IMPORTANT TIP:** When a HVAC line/connection has been opened the operative MUST always cap/bung the applicable port using a suitable cap/bung

#### **NOTICE**

The operative must always change the receiver drier if the air conditioning compressor has failed

#### **CAUTION**

In the event the evaporator or compressor is suspected to be at fault the operative must raise a Technical DISS query before conducting any further work ensuring the following is attached:

- Photograph and video of the refrigerant quantity and the actual leakage location

Or

In the event the evaporator or compressor is not suspected as being at fault and the issue can be successfully diagnosed and repaired, please raise a non technical DISS query stating the issue which was evident and how the issue was resolved

### **Production change**

### **Measure**

Refer to the Technical background section

### **Warranty accounting instructions**

Due to the numerous scenarios please refer to the warranty accounting instructions with Elsa pro

#### **NOTICE**

All HVAC related claims will be checked by the Warranty team, any claims which are not deemed as applicable will be cancelled

- In the event that parts are replaced parts without the required attachments or the parts are found to be not at fault warranty claims will be liable for rejection

## Parts information

Refer to the ETKA parts catalogue

