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## Condition

Applicable Vehicles					
Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
e-Golf	2016	All	All	AU_GW000001	AU_GW999999
e-Golf	2017-2019	All	All	AU_HW900001	AU_KW999999
e-Golf	2020	All	All	AU_LW900001	AU_LW912562

Revision Table			
Instance Number	Published Date	Version Number	Reason For Update
2048900/5	3/12/20	87-17-09	Update to production solution VIN.
2048900/1	10/9/17	V871709	Original publication.

The customer may comment that the vehicle heating or cooling is erratic or that the heating or cooling performance is insufficient.




**Note:**

**This bulletin must be read in its entirety before performing repairs.**

In the thermal management control unit (address code: 00C5) one or several of the following event entries can be logged:

DTC	Description	Event Code
P1C0200	- <b>N636</b> - expansion valve 1 for refrigerant, mechanical fault, sporadic/static	59047
P1C0A00	- <b>N637</b> - expansion valve 2 for refrigerant, mechanical fault, sporadic/static	59055
P1C1200	- <b>N638</b> - expansion valve 3 for refrigerant, mechanical fault, sporadic/static	59063

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P1C1A00	- <b>N696</b> - shut-off valve 1 for refrigerant, mechanical fault, sporadic/static	59079
P1C3200	- <b>N642</b> - shut-off valve 4 for refrigerant, mechanical fault, sporadic/static	59103
P1C3A00	- <b>N643</b> - shut-off valve 5 for refrigerant, mechanical fault, sporadic/static	59111

## Technical Background

Shut-off/expansion valve deviation affecting heat pump.

Event Entry about Inoperative Expansion Valves (diagnosis address C5).

## Production Solution

Optimized shut-off/expansion valve for heat pump from VIN: AU\_LW912563.

## Service



### WARNING:

Extremely dangerous due to high voltage. Electrocution can cause death or very serious personal injury. Have the high-voltage system de-energized by an E-Golf certified technician.

Observe the safety precautions when working on the high-voltage system. Refer to Safety Precautions when Working on the High-Voltage System” in Elsa.

Pay attention to safety precautions when working near high-voltage components. Refer to Chapter “Safety Precautions when Working near High-Voltage Components” in Elsa.

Pay attention to the high-voltage system danger classification. Refer to Electric Drive; Rep. Gr.00; High-Voltage System Danger Classification in Elsa.

- Connect the Vehicle Diagnostic Tester and extract refrigerant.




### Note:

It is absolutely necessary to perform the basic setting “C5-fill the refrigerant circuit” using the Vehicle Diagnostic Tester so that all refrigerant circuit valves are open. Only then can the entire refrigerant in the circuit be extracted.

**Do not disconnect the Vehicle Diagnostic Tester from the vehicle during the entire extraction, evacuating and filling process.**

There is a risk of damaging the AC compressor if the refrigerant circuit is empty. Never start the vehicle with refrigerant circuit empty.

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- Run the basic setting in C5 “fill the refrigerant circuit” in Guided Functions.
- Evacuate the refrigerant circuit.
- Replace the shut-off/expansion valve per fault in GFF. See Repair Manual Heating, Ventilation and Air Conditioning, 87 Air Conditioning, Heat Pump Valve Unit in Elsa.

 **Note:**

Refrigerant Shutoff/EXP valves should only be replaced per each fault identified in GFF. A GFF log must accompany each valve replacement.

- Perform expansion valve addressing/adaptation after expansion valve(s) are replaced.
- Re-run the basic settings in C5 “fill the refrigerant circuit” in Guided Functions
- Recharge the refrigerant circuit per vehicle refrigerant label specifications.

## Warranty

 **Note:**

A GFF log must be included with the warranty claim. A fault must be present in the GFF log for each part claimed.

Claim all replaced components on one claim line. Do not create separate claim lines.

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual <sup>1)</sup>					
Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
e-Golf	2016	All	All	AU_GW000001	AU_GW999999
e-Golf	2017-2019	All	All	AU_HW900001	AU_KW99999
e-Golf	2020	All	All	AU_LW900001	AU_LW912562
<b>SAGA Coding</b>					
<b>Claim Type:</b>	Use applicable Claim Type <sup>1)</sup>				
<b>Service Number:</b>	<b>Damage Code</b>		<b>HST</b>	<b>Damage Location (Depends on Service No.)</b>	
8803	0010		--	--	
<b>Parts Manufacturer</b>		HVCC		VH3 <sup>2)</sup>	
<b>Labor Operation <sup>3)</sup> : Battery Charge</b>			27068950 = See Elsa for latest time units		

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<b>Labor Operation</b> <sup>3)</sup> : Refrigerant drain and fill	87031700 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Disable HV system voltage	93100006 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install Supplementary A/C unit.	88101900 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install front left expansion valve 1 for refrigerant (N636) Per fault in GFF	88701950 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install front right expansion valve 2 for refrigerant (N637) Per fault in GFF	88701953 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install rear expansion valve 3 for refrigerant (N638) Per fault in GFF	88701956 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install front shut-off valve 1 for refrigerant (N696) Per fault in GFF	88031950 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install rear shut-off valve 4 for refrigerant (N642) Per fault in GFF	88031953 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Headlight assembly removed + installed, (N643) Per fault in GFF	94151950 = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Headlight assembly adjusted, (N643) Per fault in GFF	941516XX = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Grille removed + installed, (N643) Per fault in GFF	660519XX = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Radar Sensor adjusted (if equipped)	916315XX = See Elsa for latest time units
<b>Labor Operation</b> <sup>3)</sup> : Remove and Install front shut-off valve 5 for refrigerant (N643) Per fault in GFF	88031956 = See Elsa for latest time units
<b>Causal Part:</b>	4M0816703A or 4M0816682C
<b>Outside Material:</b> ZVP000134	As Required (with Rob134APF print out)
<b>Outside Material:</b> ZVP000134YF	As Required (with Mahle print out)
<b>Diagnostic Time</b> <sup>4)</sup>	

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<b>GFF Time expenditure</b>	01500000 = Actual GFF print out	YES
<b>Road Test</b>	01210002 = 00 TU 01210004 = 00 TU	NO
<b>Technical Diagnosis</b>	01320000 = 00 TU max.	NO
<b>Claim Comment:</b> Input "As per Technical Bulletin 2048900" in comment section of Warranty Claim.		
<p>1) Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only.</p> <p>2) Code per warranty vendor code policy.</p> <p>3) Labor Time Units (TUs) are subject to change with ELSA updates.</p> <p>4) Documentation required per Warranty Policies and Procedures Manual.</p>		

## Required Parts and Tools




**Note:**

**Refer ETKA / Original parts catalogue to obtain the latest part number available in Spare parts.**

Part No:	Part Description	Quantity
4M0 816 682 *	Expansion Valve	1 per fault in GFF
4M0 816 703 *	Shut Off Valve	1 per fault in GFF
Per valve location in ETKA	Valve Seal Ring	As required
12E 998 152 *	JX1 Seal Kit	1

Tool Description	Tool No:
Midtronics Battery Tester/Charger	GRX3000VAS Or MTRMSP0702 battery maintainer/charger
VAS Diagnostic Tool	VAS 6150/X & VAS 6160/X with ODIS Service with: current online updates
RobinAir® A/C Service Unit	ROB134APF
MAHLE R1234yf Air Conditioning Service Unit	VAS581005

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## Additional Information

All part and service references provided in this Technical Bulletin are subject to change and/or removal. Always check with your Parts Dept. and Repair Manuals for the latest information.