



Technical Bulletin

Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
All Models (except Routan)	1998 - 2015	All	All	All	All

Condition

87 14 09 September 24, 2014 2019947 Supersedes T.B. V871205 dated September 7, 2012 to include additional models, model years and add additional flushing adapters.

Air Conditioning, Cleaning of the Refrigerant Circuit (U.S.Only)

Debris can be dispersed throughout the refrigerant circuit after a/c component damage. In order to maintain A/C operating efficiency, it is important to flush the refrigerant circuit after A/C component repairs.

Technical Background

In cases where an air conditioning system component (such as a compressor or other system component) has failed and debris from the compressor or component is circulated throughout the refrigerant circuit, the refrigerant circuit must be cleaned of any and all debris or damage to the replacement components will result.

Production Solution

No production change required.

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Service

Tools



- Use the ROB134APF Air Conditioning Service System with VAS 6337/1A Air Conditioning System Flushing Device (Figure 1) Used for effective refrigerant handling and air conditioning circuit flushing after air conditioning component failure.
- Now air conditioning system refrigerant recovery, evacuation, recharge *and* refrigerant circuit cleaning after component failure can be performed with a single servicing station.

Figure 1. The ROB134APF Air Conditioning Service System with VAS 6337/1A Air Conditioning System Flushing Device.

The VAS 6338/1 Adapter Set for Refrigerant Circuits. Along with an additional adapter (VAS 6338/33 for the front expansion valve bypass for the Touareg) this kit contains the adapters necessary to complete a thorough flush operation of a contaminated circuit.

Elsa contains the technical information for each model regarding the necessary adapter applications and connections of the servicing station for the flush operation. See *Heating, Ventilation & Air Conditioning >> Refrigerant R134A-Servicing >> 00 General Technical Data>> Refrigerant Circuit removing contaminates>> Refrigerant Circuit, Flushing with Refrigerant R134A in Elsa.*

All other refrigerant recovery, evacuation and recharge operations are performed using the usual procedure specified in Elsa. An operations manual will accompany each servicing station that will describe operation of the unit.

Procedure

Front A/C:

1. If an air conditioning component has been diagnosed as the root cause of the failure and this component is suspected of releasing debris through the circuit, continue the diagnosis to determine if this is the case.
2. Turn the power to the servicing station on and begin by recovering the refrigerant from the system through the normal service fittings.

Tip:

During the entire process avoid interrupting the power to the station. The station's internal memory will keep a log of all operations and can conveniently be recalled and printed. If the power is interrupted, the station will lose the memory of the process, and the oil volume recovered, oil volume added, refrigerant volume recovered, etc. will have to be manually determined.

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3. Disconnect the service hoses. The VAS 6338/1 adapters will be used to bypass the following:

⚠ Note:

For models in which the Receiver-drier is not over flushed as per the repair manual, the desiccant cartridge must be removed for the flushing process.

Before flushing the A/C circuit, inspect the Receiver-drier cartridge screen for any tears and for any desiccant material that may have been released into the A/C circuit. If the Receiver-drier screen is torn, replace the condenser prior to starting the flushing procedure.

- Compressor.
- Receiver-drier.
- Expansion Valve/ Restrictor (if equipped).

If vehicle is equipped with a restrictor, remove the restrictor and reconnect the line.

4. Once the appropriate adapters are in place, connect the service station to the vehicle through the air conditioning compressor hoses. The flushing attachment ports are labeled on the flusher (Figure 2 and Figure 3).



Figure 2. A flushing attachment port.



Figure 3. A flushing attachment port.

- This connection strategy allows for a system flush **in the opposite** direction of the normal refrigerant flow (Figure 4).

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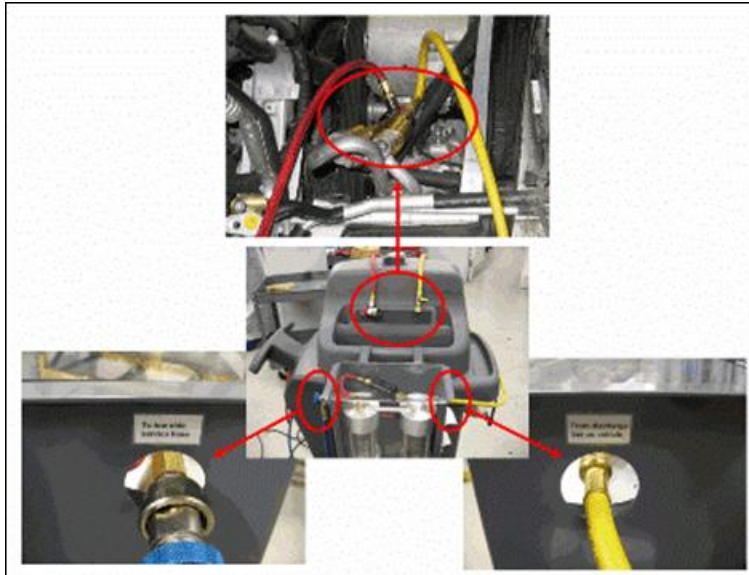


Figure 4. Connection strategy: Vehicle to service station to flushing device.



Figure 5. The first cycle.

- The flush program will begin with an evacuation of the system and a rate of rise test. This is necessary to test the integrity of the connections before the flush cycles begin. If the rate of rise test passes, the program will proceed into the flush cycles. (Figures 5 – 7). These cycles will occur automatically in succession.

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Figure 6. *The second cycle.*

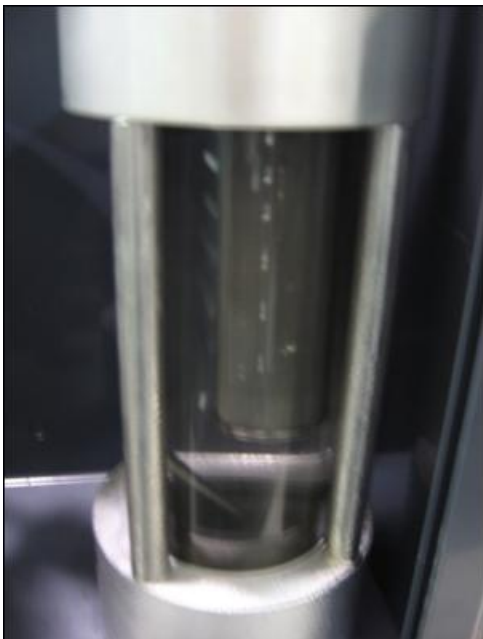


Figure 7. *The third cycle.*

- The debris is then rinsed from the circuit and contained within the filtration in the flusher. After the flush program, the system will be evacuated.

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5. After the system is evacuated, remove any adapters that were installed from the VAS 6338/1.
6. Replace Expansion Valve (if equipped), Receiver-drier and Restrictor (if equipped).
7. Connect the station in the usual manner through the service fittings and perform the normal evacuation and refrigerant recharge operations.
8. Print a log of the job and attach to the repair order.

Touareg with Four Zone Climate Control – Rear A/C

For Touareg with four zone climate control, the flush process will be repeated for the additional air conditioning unit (rear of vehicle) according to the repair information in Elsa.



Figure 8. The location of the connections inside the left front wheelhouse on a Touareg with four zone climate control.

1. Separate the front and rear air conditioning systems for individual rinse operations.

The VAS 6338/1 contains the necessary adapters to separate the systems for the individual rinse operations.



Figure 9. Location of rear air conditioning unit and expansion valve.

2. Bypass the rear expansion valve with an adapter from the VAS 6338/1.
3. Flush rear A/C.

4. When complete, remove any adapters that were installed from the VAS 6338/1.
5. Replace defective components.



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6. Connect the station in the usual manner through the service fittings and perform the normal evacuation and refrigerant recharge operations.
7. Print a log of the job and attach to the repair order.

A/C Components Replacement

The following components must be replaced:

- Expansion Valve (if equipped)
- Restrictor (if equipped)
- Receiver-drier



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Warranty

Note:

The procedure outlined in this Technical Bulletin must be included with the warranty repair(s) and not claimed independently.

You may claim \$3.51 per A/C System flush for the A/C System Flush Machine filter BAI783400103 (which represents ¼ the cost of a replacement filter).

Tip:

Time for evacuation and recharge not included; claim accordingly as per Elsa.

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual ¹⁾					
Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
All Models (except Routan)	1998 - 2015	All	All	All	All
Claim Type:	Use applicable Claim Type ¹⁾				
SAGA Coding					
Service Number:	Damage Code	HST	Damage Location (Depends on Service No.)	Parts Manufacturer (removed part)	
Use Service Number of Damaged Component	Use damage code appropriate for root cause of failure	--	Use applicable when indicated in Elsa (L/R)	Use Vendor code from failed component ²⁾ ---	
Labor Operation ³⁾: Air Conditioner Clean, All Vehicles, Front A/C only (except Touareg with four zone climate control)			87012999 = 140 TU		
Labor Operation ³⁾: Air Conditioner Clean, Touareg with four zone climate control.			87013099 = 310 TU		
Labor Operation ³⁾: Air Conditioner Check, All Vehicles.			87010150 = 30 TU		





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Labor Operation ³⁾ : Replace Expansion Valve, if equipped.		8770XXXX = Claim appropriate SRT for vehicle and engine in Elsa
Labor Operation ³⁾ : Replace Restrictor, if equipped.		8777XXXX = Claim appropriate SRT for vehicle and engine in Elsa
Labor Operation ³⁾ : Replace Receiver-Drier		8755XXXX = Claim appropriate SRT for vehicle and engine in Elsa
Outside Material: A/C Flush Machine filter, Part No. BAI783400103		\$3.51 total per A/C System Flush which accompanies a repair (this amount equals ¼ of the cost of the A/C flush machine filter)
Diagnostic Time ⁴⁾		
GFF Time expenditure	01500000 = 00 TU max.	NO
Road Test	01210002 = 00 TU 01210004 = 00 TU	NO
Technical Diagnosis	01320000 = 00 TU max.	NO
Claim Comment: Input "As per Technical Bulletin 2019947" 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 Policy & Procedures Manual.</p>		


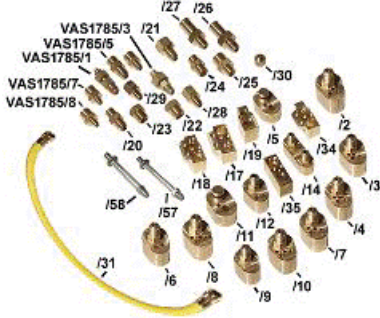

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Required Parts and Tools






Part Description	Part No:	Quantity
Expansion Valve	Vehicle Specific	1
Receiver-Drier	Vehicle Specific	1
Restrictor	Vehicle Specific	1

Tool Description	Tool No:
<p>Air Conditioning Service System.</p> 	<p>ROB134APF</p>
<p>Air Conditioning System Flushing Device</p> 	<p>VAS 6337/1A</p>
<p>Air Conditioning System Flushing Device Filter</p>	<p>BAI783400103</p>

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<p>Adapter set for refrigerant circuits</p> 	<p>VAS 6338/1</p>
<p>Additional adapter for bypass of the front expansion valve for Touareg</p> 	<p>VAS 6338/33</p>
<p>Additional refrigerant circuit adapter</p>	<p>VAS6338/36</p>

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<p>Additional refrigerant circuit adapter</p> 	<p>VAS6338/38</p>
<p>Additional refrigerant circuit adapter</p> 	<p>VAS6338/40</p>
<p>Additional refrigerant circuit adapter</p> 	<p>VAS6338/41</p>
<p>Additional refrigerant circuit adapter</p> 	<p>VAS6338/42</p>



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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.