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# Technical Bulletin

Subject: **Update Programming (Flashing) Transmission Control  
Module (TCM) for Harsh Shifting**

Group: **01**

Number: **04-13**

Model(s): **Touareg 3.2L V6 (eng. code AZZ, BAA) 2004**  
**Touareg 4.2L V8 (eng. code AXQ, BHX)**

Date: **June 21, 2004**

## Condition

For V6 Models (engine code AZZ, BAA) and  
V8 Models (engine code AXQ, BHX):

After extended highway driving a harsh 5th  
gear to 4th gear downshift is felt when slowing  
on an off-ramp.

For V8 Models (engine code AXQ, BHX) only:

In heavy traffic conditions, when slowing to  
approx. 5 MPH and then accelerating, vehicle  
goes into gear after a brief delay (customer  
perceives this as jerky shifting behavior).

## Service

- Perform Update Programming (Flashing)  
procedure for TCM as follows:

### **CAUTION!**

***When performing the reflash procedure,  
ALL DTCs for all systems are erased.***

***DTCs linked to Guided Fault Finding  
function tests will be lost. Therefore,  
always address stored DTCs for  
Customer concerns unrelated to the  
reflash procedure first.***



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## Procedure:

### **CAUTION!**

*The following "Update - Programming" (flashing) process may overwrite any "TUNED" ECM or TCM programming.*

*A "TUNED" ECM or TCM is described as any ECM or TCM altered so as to perform outside the normal parameters and specifications approved by Volkswagen of America, Inc..*

If you encounter a vehicle with a "Tuned" ECM or TCM, prior to performing the "Update - Programming" (flashing) procedure:

- Your Dealership should place the vehicle owner on notice in writing, that their ECM or TCM was found to have been tuned, and that any damage caused by the tuning of the ECM or TCM (including any adverse emissions consequences) will not be covered by Volkswagen of America, Inc. warranties.
- For any repair requested by the owner under warranty or outside warranty that requires flashing, which will automatically wipe out the "Tuning" program, your Dealership should advise the owner of the above and get his written consent (see attached ECM / TCM Tuning form) to the flashing procedure.



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## Tool requirements

- ◆ VAS 5051 or 5052 (with Basis CD V.06.05 and the Brand CD V.06.51.00 or higher) with old diagnosis logs erased prior to start.
- ◆ “Update - Programming” (flashing) CD W42TOUAREGSHIFT

## Note:

*Additional copies of the “Update - Programming” CD (Literature Number W42TOUAREGSHIFT) may be ordered from the Volkswagen Technical Literature Ordering Center at [vw.ddsltd.com](http://vw.ddsltd.com), or by calling 1-800-544-8021 from 8:00 a.m. to 8:00 p.m. EST Monday through Friday. This number can be dialed in both the United States and Canada.*

## Vehicle requirements

- ◆ Battery MUST have minimum no-load charge of 12.5V (failure to maintain voltage during update process can lead to ECM / TCM failure) (you must use an approved battery charger to maintain battery voltage).
- ◆ VAS 5051: connected to vehicle and to 110V AC Power supply at all times during procedure.
- ◆ VAS 5052: connected to vehicle with battery voltage requirements met.
- ◆ Any appliances with high electromagnetic radiation (i.e. mobile phones) switched OFF.
- ◆ No Stored DTC's, erase any stored DTCs.



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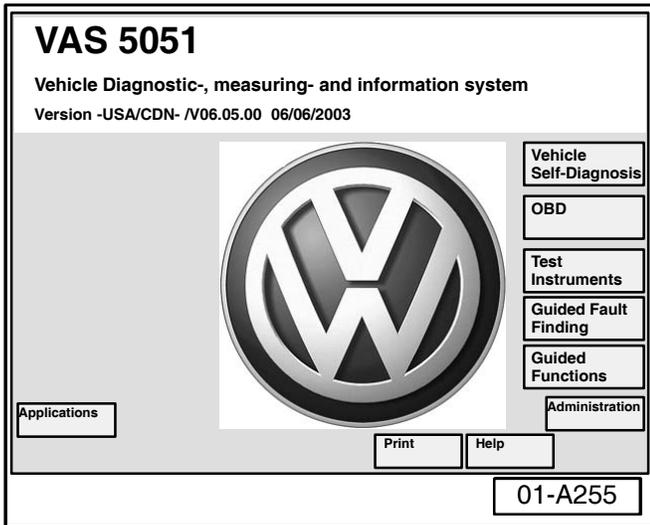
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### CAUTION!

*Non-observance of the following points may lead to ECM / TCM failure!*

*VAS 5051 or 5052 must always be connected to the approved power supply at the approved voltages. Under no circumstances should the power supply be interrupted or the diagnostic connector unplugged during the flash procedure.*

*Any appliances with high electromagnetic radiation (i.e. mobile phones) must be switched OFF.*



“Update - Programming” (flashing) procedure, checking for update match

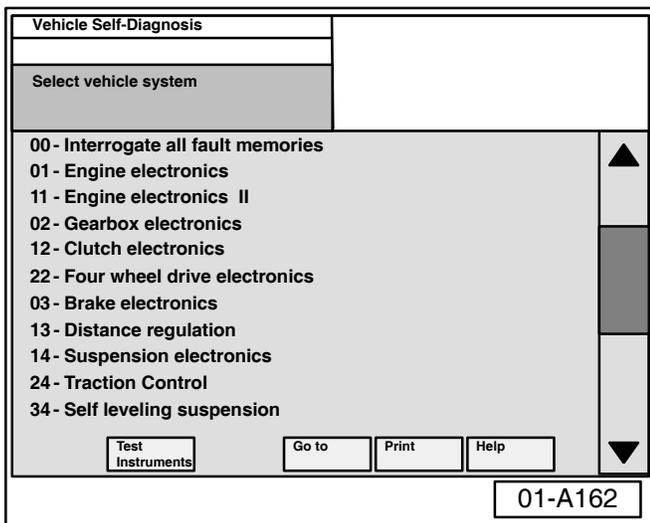
– Switch ignition ON.

◀ – Switch VAS 5051/5052 ON and insert flash CD into CD drive as soon as start screen appears.

### NOTE:

*You must return to the start screen before starting a new (flashing) session, otherwise the flashing CD will not be recognized by the tester.*

– Select “Vehicle Self Diagnosis” mode.



◀ Similar screen appears. Using the scroll bar to the right of the screen:

– Scroll and select vehicle system “02-Gearbox electronics”.



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Vehicle Self-Diagnosis	02 - Gearbox electronics
	TCM Part Number
	TCM description & software level
	Coding XXXXX
	Dealership number XXXXX
Select diagnosis function	
02 - Interrogate fault memory	
03 - Final control diagnosis	
04 - Basic settings	
05 - Erase fault memory	
06 - End output	
07 - Code control unit	
08 - Read Measuring Value block	
09 - Reading individual measuring value	
10 - Adaption	
11 - Log-in procedure	
Update - Programming	
◀ Test Instruments	Go to Print Help
01-A163	

◀ Similar screen appears.

- Select "Update - Programming" option at bottom of screen (arrow).

**Note:**

*The "Update - Programming" function is only available when the inserted flashing CD level and current vehicle TCM level are different.*

If "Update - Programming" does not appear:

- Programming (flashing TCM cannot be performed, continue to diagnose condition.

If software level DOES NOT match the level indicated on Flashing CD:

- ◆ "Update - Programming" (arrow) appears.

Vehicle Self-Diagnosis	02 - Gearbox electronics
	TCM Part Number
	TCM description & software level
	Coding XXXXX
	Dealership number XXXXX
Select diagnosis function	
02 - Interrogate fault memory	
03 - Final control diagnosis	
04 - Basic settings	
05 - Erase fault memory	
06 - End output	
07 - Code control unit	
08 - Read Measuring Value block	
09 - Reading individual measuring value	
10 - Adaption	
11 - Log-in procedure	
Update - Programming	
◀ Test Instruments	Go to Print Help
01-A163	

**PRIOR to performing procedure to "Update - Programming" (flash) the TCM:**

- ◆ ALL fault memories must be interrogated and erased.

**Note:**

*Failure to erase ALL fault memories may cause "Update - Programming" (flashing) procedure to fail!*

◀ - Select Diagnosis function 06 "End output".

- Select Diagnosis function 00 "Collection services".

- Select "Check DTC memory - complete system". which will interrogate all fault memories.

- Erase ALL fault memories.



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Vehicle Self-Diagnosis	
Select vehicle system	
00- Interrogate all fault memories 01 - Engine electronics 11 - Engine electronics II 02- Gearbox electronics 12- Clutch electronics 22- Four wheel drive electronics 03- Brake electronics 13- Distance regulation 14- Suspension electronics 24- Traction Control 34- Self leveling suspension	
Test Instruments	Go to Print Help
01-A162	

With all fault memories erased:

- Similar screen appears. Using the scroll bar to the right of the screen:
  - Scroll and select vehicle system "02-Gearbox electronics".

Vehicle Self-Diagnosis	
Select diagnosis function	02 - Gearbox electronics TCM Part Number TCM description & software level Coding XXXXX Dealership number XXXXX
02 - Interrogate fault memory 03 - Final control diagnosis 04 - Basic settings 05 - Erase fault memory 06 - End output 07 - Code control unit 08 - Read Measuring Value block 09 - Reading individual measuring value 10 - Adaption 11 - Log-in procedure Update - Programming	
Test Instruments	Go to Print Help
01-A163	

- Similar screen appears.
  - Select "Update - Programming" option at bottom of screen.

Vehicle Self-Diagnosis	
Update - Programming	02 - Gearbox electronics TCM Part Number TCM description & software level Coding XXXXX Dealership number XXXXX
Programming can be carried out.	
<b>WARNING!</b> The programme version stored in the control unit will be erased It will be programmed with the new version 000X The erasing programming process will last roughly XX minutes The part number in the control unit identification may change. Vehicle specific data (coding, adaptation etc.) might be lost. It must be checked after successful programming After the continue button has been pressed the process cannot be cancelled. <b>IMPORTANT -- PLEASE NOTE:</b> Switching ignition off or disconnecting the diagnostic connector during programming may completely destroy the control module!	
Test Instruments	Go to Print Help
01-A158	

- Similar screen appears.
  - "Update - Programming" (flashing), performing for TCM
  - After selecting "Update - Programming" function:
    - By selecting the ► button, the TCM programming procedure begins.



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Vehicle Self-Diagnosis	02 - Gearbox electronics
Update - Programming	TCM Part Number
Programming in progress	TCM description & software level Coding XXXXX Dealership number XXXXX
Data Transfer in %	
01-A164	

◀ Similar screen appears.

The previous data in the control module is erased and the new data is being transferred to the module from the flash CD.

### CAUTION!

**Once "Update - Programming" function has been started, switching ignition OFF or disconnecting the diagnostic connector may completely destroy the TCM.**

Vehicle Self-Diagnosis	02 - Gearboxelectronics
Update - Programming	TCM Part Number
Programming in progress	TCM description & software level Coding XXXXX Dealership number XXXXX
Data Transferred in %	
<p><b>Diagnosis bus faulty</b></p> <p>No voltage or voltage too low on diagnostic bus</p> <p>Is the battery voltage from the vehicle too low? Is the diagnostic connector connected to the vehicle?</p> <p>Repeat  Cancel</p>	
01-A165	

### NOTE:

◀ If, during the "Update - Programming", a fault message is displayed:

- Confirm that VAS 5051 or VAS 5052 diagnostic tool power supply is adequate and that ALL appliances with high electromagnetic radiation (i.e. mobile phones are switched OFF).
- The "Update - Programming" (flashing) process must then be started from the beginning using the "Repeat" button (arrow). DO NOT use the "Cancel" button.

### Important!

On NO occasion should the "Cancel" button be selected.



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Vehicle Self-Diagnosis	02 - Gearbox electronics
Update - Programming	TCM Part Number
Programming log	TCM description & software level
Save result?	000X
	Dealership number XXXXX
Expanded identification old XXXXXXXXXX	Expanded identification new XXXXXXXXXX
Description and software level	000X
Coding xxxxx	
Dealership number xxxxx	Dealership number xxxxx
Unit number 942	Unit number 0
Importer number 444	
Programming status	
Status	No malfunction
Counter programming status	1
Counter successful attempts	1
Programming pre-condition	fulfilled
◀ Test Instruments	Go to Print Help ▶
01-A166	

Once "Update - Programming" (flashing) is complete:

◆ Similar screen appears.

### Note:

*Old software level is still displayed at (arrows). New software level is not displayed until process is complete and fault memories have been erased.*

- Print this screen.
- Attach print to vehicle Repair Order.

Once "Update - Programming" (flashing) is complete, the control module must be re-initialized.

- Select the ▶ button.

Vehicle Self-Diagnosis	02 - Gearbox electronics
Update - Programming	TCM Part Number
	TCM description & software level
 To continue, the control unit requires an ignition off/on cycle Switch off ignition.	
01-A167	

◆ The tester requests you to switch the ignition OFF.

- Switch ignition OFF.

### IMPORTANT!

◆ Wait at least 20 seconds before switching the ignition back ON (failure to wait at least 20 seconds may damage the TCM).

After waiting 20 seconds:

- Switch ignition ON.

After switching ignition ON, the TCM has been re-initialized, however, fault memories must now be erased.



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Vehicle Self-Diagnosis	02 - Gearboxelectronics
Update - Programming	TCM Part Number
Erase fault memory	TCM description & software level Coding XXXXX Dealership number XXXXX
<p>The programming causes fault records in related control units. The fault memories of all control units in the vehicle must be erased.</p> <p>Pressing the Continue button will automatically erase the fault memories.</p> <p>Pressing the Back button will not erase fault memories</p>	
<p>◀ Test Instruments ▶ Go to Print Help ▶</p>	
01-A168	

## Fault memories, erasing after "Update - Programming" (flashing)

Due to the CAN bus system, fault messages will be stored in various Control Modules during programming.

◀ – To erase ALL fault memories, confirm by selecting the ▶ button.

### Note:

*This will take a few minutes, depending on how many control modules are accessed.*

Once fault memories have been erased:

- ◀ ◆ Similar screen appears.
- ◆ Old TCM Part No. and software level still appear at (arrow)
- ◆ Function ended appears at bottom of screen.
- Finish update of the TCM by selecting the ◀ button.

Vehicle Self-Diagnosis	02 - Gearbox electronics
Update Programming	TCM Part Number
DTC memories are erased	TCM description & software level ◀
Function ended	Coding XXXXX Dealership number XXXXX
<p>Vehicle systems with erased fault memories:</p> <p>01 - Engine electronics</p> <p>02 - Gearbox electronics</p> <p>03 - Brake electronics</p> <p>15 - Airbag</p> <p>25 - Immobilizer</p> <p>16 - Steering wheel electronics</p> <p>46 - Convenience system central module</p> <p>56 - Radio</p> <p>17 - Dash panel insert</p> <p>Function ended!</p>	
<p>◀ Test Instruments ▶ Go to Print Help ▶</p>	
01-A171	

Vehicle Self-Diagnosis	02 - Gearbox electronics
Select diagnosis function	TCM Part Number
02 - Interrogate fault memory	TCM description & software level ◀
03 - Final control diagnosis	Coding XXXXX
04 - Basic settings	Dealership number XXXXX
05 - Erase fault memory	
06 - End output	
07 - Code control unit	
08 - Read Measuring Value block	
09 - Reading individual measuring value	
10 - Adaption	
11 - Log-in procedure	
<p>◀ Test Instruments ▶ Go to Print Help ▶</p>	
01-A163	

◀ – New update version software level will appear at (arrow):

- ◆ V6 - "0564"
- ◆ V8 - "0565"
- Print this screen to verify TCM software level.
- Attach print to vehicle Repair Order.
- ◆ Flash CD can now be removed from VAS 5051 or VAS 5052 Diagnostic tool.
- Select "Go to" then select "Exit".
- Use VAS 5051 or VAS 5052 to set readiness code.



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<b>When procedure applies to vehicles within the New Vehicle Limited Warranty, use one of the following:</b>	
<b>Part Identifier:</b>	<b>3730</b>
<b>Labor Operation: Check only</b>	<b>37309999    Maximum A-Time allowed 20 TU</b>
<b>Labor Operation: Reflash Control module Includes all operations necessary to complete Repair</b>	<b>37303100    140 TU</b>
<b>Claim Comment: Type "Per Technical Bulletin V010413" in comment section of Warranty claim.</b>	



**OWNER INFORMATION ABOUT CONTROL MODULE TUNING\* AND  
AUTHORIZATION FOR REPROGRAMMING (REFLASHING) OF  
CONTROL MODULE(S)**

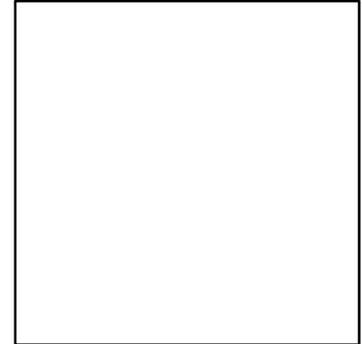
*\*) "TUNING" is described as the addition of or modification of any component which causes a Volkswagen vehicle to perform outside the normal parameters and specifications approved by Volkswagen of America, Inc..*

**Date:** \_\_\_\_\_

**Dealer Number:** \_\_\_\_\_

**Vehicle Identification Number:** \_\_\_\_\_

**Repair Order Number:** \_\_\_\_\_



Dealer stamp

I \_\_\_\_\_, owner or driver of the above identified Volkswagen, confirm:

“Tuning” as described above (especially power increasing modifications) has NOT been performed on my vehicle.

“Tuning” as described above has been performed on my vehicle and the following components were modified or installed:

\_\_\_\_\_

TUNING was performed by (Please provide Company name and telephone number, if you wish us to contact them):

\_\_\_\_\_

I understand that if my Control Module is determined to have been tuned, any damage caused by the tuning of the Control Module (including adverse emissions consequences) will not be covered by Volkswagen of America, Inc. warranties.

I am requesting that my Dealer reflash (update) my Control Module, and understand that this process will automatically (overwrite) and permanently wipe out any “Tuning” program which was previously performed on the Control Module.

I have read this statement and confirm my request by affixing my signature immediately below.

\_\_\_\_\_  
Signature of Customer