


Release Date	12/09/2021	Technical Service Bulletin		
24HV UPDATE				
Engine Control Module Software Update – (FED_EMS)				

Applicable Vehicles

Country	Beginning Model Year	Ending Model Year	Vehicle	Vehicle Count
USA	2022	2022	TAOS	17,654
CAN	2022	2022	TAOS	671


Revision History

Revision	Date	Purpose
1	December 09, 2021	Original publication

Condition/Technical Background

This Update has been released proactively to prevent certain DTCs stored in the ECM Fault Memory, and also includes additional improvements to vehicle diagnostics and drivability.

Criteria	Technical Background
01	<p>This update has been proactively released to prevent the following DTCs stored in ECM Fault Memory:</p> <ul style="list-style-type: none"> • P2421 - EVAP emission system evaporative valve stuck open • P013E - Oxygen sensor delay response • P2025 - EVAP fuel vapor temperature sensor performance • P0169 - Incorrect fuel composition • P30C0 - Fuel Quality poor • P0606 (with symptom code 32903) - ECM/PCM Processor • P060C (with symptom code 30935) - ECU performance • P290C - Crankcase Oil Separator Underspeed • U01C3 - Lost Communication With Crankcase Oil Separator <p>Included in the software update are additional performance improvements to address the following:</p> <ul style="list-style-type: none"> • Customer may experience engine torque variations in the 1200 to 2000 engine rpm range with bad fuel • Dissatisfaction with the drive-off behavior • Rough idling due to early camshaft positions (especially in hot ambient temperatures) • The engine temperature could unexpectedly rise into high ranges due to the radiator cooling fan not sufficiently being commanded under hot ambient air conditions (high intake air and coolant temperature) • Prolonged engine cranking is noticed around -10°C

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Remedy

Criteria	Remedy
01	Update engine control module software

This Update is in effect until removed.

Vehicle must meet all of the following criteria:

- Procedure is valid only for vehicles that show the **24HV** code in the ELSA Campaign/Action Information screen on the day of repair.
- Vehicle must be within the Federal Emissions Warranty.
- Procedure must be performed within the allotted time frame stated in this Technical Service Bulletin.
- Procedure must be performed on applicable vehicles in dealer inventory prior to sale.

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Service

NOTE:

- ELSA is the only valid inquiry/verification source. Check ELSA on the day this vehicle UPDATE will be performed to verify vehicle eligibility for the UPDATE. Status must show “open”. Attach an ELSA printout showing the “open” status to the repair order.
- If this UPDATE appears to have already been performed but the code still shows open in ELSA, contact Warranty before proceeding further. Another dealer may have recently performed this UPDATE but not yet entered a claim for it in the system.
- ELSA may also show additional open action(s); if so, inform your customer - this work can be done while the vehicle is in for this UPDATE.
- Contact the Warranty Helpline (U.S.) or the Warranty Campaign Specialist (Canada) if you have any questions.

Applicable criteria ID(s)	Campaign/Action Status
01 ← 2	Open ← 1

EXAMPLE

Campaign/Action	Start	Designation
← 3	2015-11-10	W-SERV_ACT -
	2018-12-13	RECALL -
	2017-05-16	A-RECALL -

EXAMPLE

- Enter the VIN in ELSA and proceed to the “Campaign/Action” screen.

TIP

On the date of repair, print this screen and keep a copy with the repair order.


- Confirm the Campaign/Action is open <arrow 1>. If the status is closed, no further work is required.
- Note the Applicable Criteria ID <arrow 2> for use in determining the correct work to be done and corresponding parts associated.

CRITICAL REPAIR STEP

STOP! STOP!

If multiple software update Campaign/Actions are open, they must be performed in order of the Start date <arrow 3>. The oldest should be performed first.

- **All Safety Recalls must be completed prior to completing this campaign.**

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NOTE

Prior to launching the VAS Diagnostic Tester and starting an update, ensure the following conditions are met;

- ✓ **The ODIS software is completely up to date.**
 - Refer to the “Alerts” section on ServiceNet home page for the current ODIS version.
- ✓ **The battery charger is connected to the vehicle battery and remains connected for the duration of the software update.**
 - Battery voltage must remain above 12.5 volts for the duration of the software update. Failure to do so may cause the update to fail, which could result in damage to the control module. Control modules damaged by insufficient voltage will not be covered.
- ✓ **The screen saver and power saving settings are off.**
 - Failure to do so may result in the tester entering power save mode during the software update, which could result in damage to the control module.
- ✓ **The VAS Diagnostic Tester is plugged in using the supplied power adapters.**
 - Under no circumstances should the tester be used on battery power alone during the software update. Failure to do so may result in the tester powering off during the update, which could result in damage to the control module.
- ✓ **The VAS Diagnostics Interface MUST ONLY be connected to the tester with a USB cable.**
 - Performing a software update using a Bluetooth or WiFi connection increases the risk of losing connection during the update, which could result in damage to the control module. It also greatly increases the time required to perform the update. Requests for additional time or parts will be denied if the GFF log shows the update was performed using Bluetooth or WiFi.

WARNING


Radiator Fan(s) may cycle ON high speed during the Update Process! There is a serious risk that personal injury may result if contact is made with spinning fan blades. Keep hands and all objects away from Radiator Fan(s) during Update Process!

TIP

To Update-Programming using SVM, review and follow instructions in Technical Bulletin 2014603: *Software Version Management (SVM) Operating Instructions*.
 The SVM Process must be completed in its entirety so the database receives the update confirmation response. A warranty claim may not be reimbursed if there is no confirmation response to support the claim.

TIP

As a best practice, customer presets should be documented prior to performing any update in the event these settings are lost during the update.

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NOTE

- Damages resulting from improper repair or failure to follow these work instructions are the dealer's responsibility and are not eligible for reimbursement under this action.
- Diagnosis and repair of pre-existing conditions in the vehicle are not covered under this action.

NOTE

- All campaign software updates must be completed during a single, standalone ODIS Diagnostic Session. You must fully complete this campaign and send all logs before beginning any other campaigns or operations.
- If there are any ODIS "Hot-Fix" patches installed, they must be removed from the scan tool before beginning this operation. ODIS "Hot-Fix" patches may affect the update process.

- Open the hood.
- Open the battery cover.
- Switch the ignition on.
- Apply the parking brake.
- Switch off all consumers (headlights, heated seats, climate control, etc.).
- Connect the VAS6150X/VAS6160X Diagnostic Tester to the vehicle.
- Start the ODIS program.
- Attach the GRX3000VAS Tester/Charger (or equivalent) IN POWER SUPPLY MODE to the vehicle battery.

NOTE

Vehicles with Battery Monitoring Control Module -J367- and/or an EFB Battery:

When connecting the charger to the battery, connect the positive cable to the positive terminal of the battery and connect the negative cable to the grounding lug on the chassis. DO NOT connect the ground cable directly to negative terminal of the battery.

- Turn the hazards on.

CAUTION

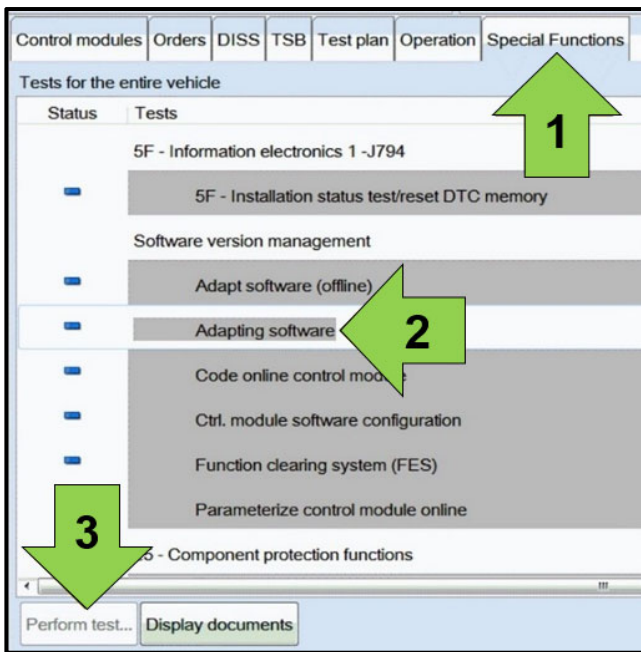
The procedure may cancel itself if the hazard warning lights are not switched on. The hazard warning lights prevent the system from switching to bus sleep mode during the update.

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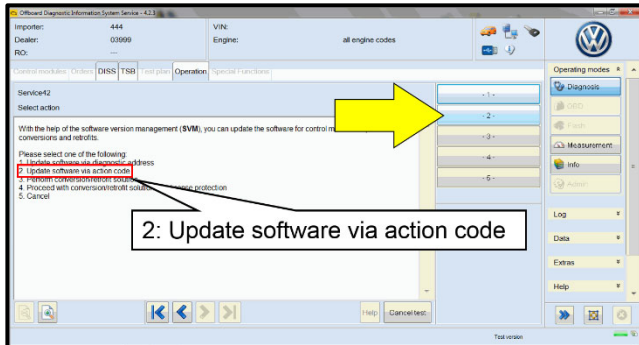


- Confirm that scan tool is communicating with the diagnostic head by USB <Green Arrow>.
 - If the Bluetooth symbol is shown <Red Arrow> then disconnect the diagnostic head from the vehicle and reconnect the USB cable to the diagnostic head and then reattach to the vehicle.
- Upon ODIS startup, verify the “Diagnosis” operating mode is selected <as shown>.
- Once the GFF scan is complete, select “Special functions” <arrow 1>, then “Adapting software” <arrow 2>, then select “Perform test” <arrow 3>.



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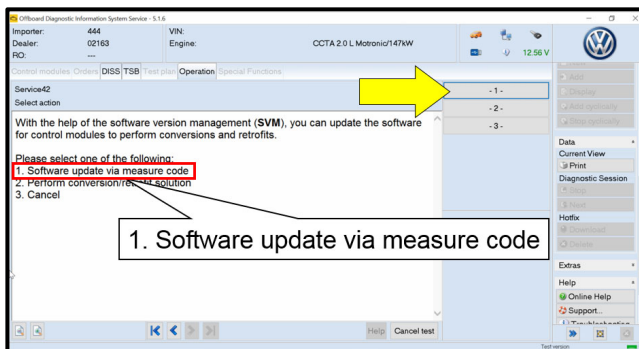
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- Select the correct option to “Update software via action code” OR “Software update via measured code”.

NOTE

The different options to perform the SVM operation may vary based on model.



NOTE

Using **Bluetooth** or **WiFi** for this action is **PROHIBITED!**

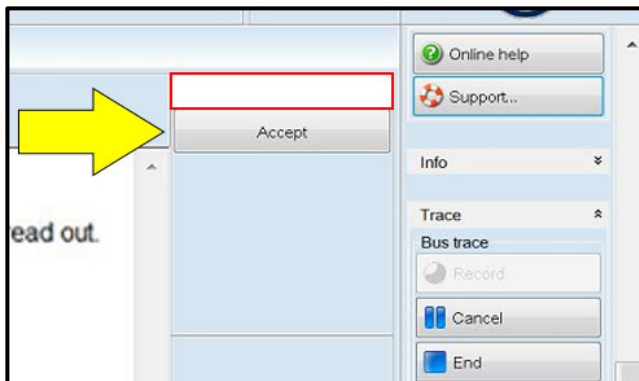
Damage caused to electronic components (e.g. ECM, TCM, etc.) during the SVM flash process is not covered.

- Enter the corrective action code (SVM code) as listed below.

SVM code

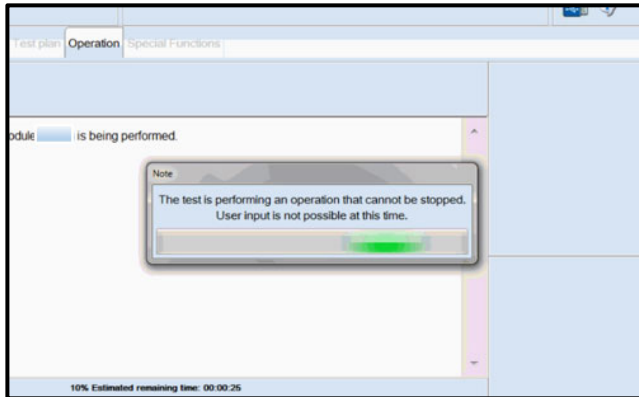
4759

- Select “Accept” <arrow> and follow the on screen prompts.

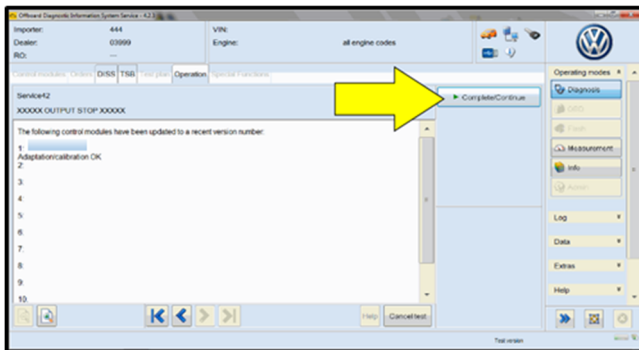


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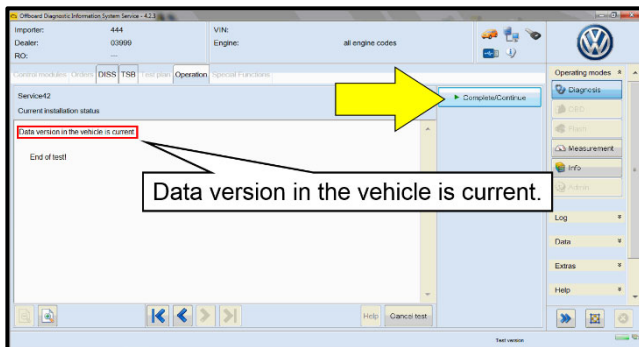
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- During the flash, this screen appears when each operation is performed:



- Select Complete/Continue <arrow> after each operation is completed.



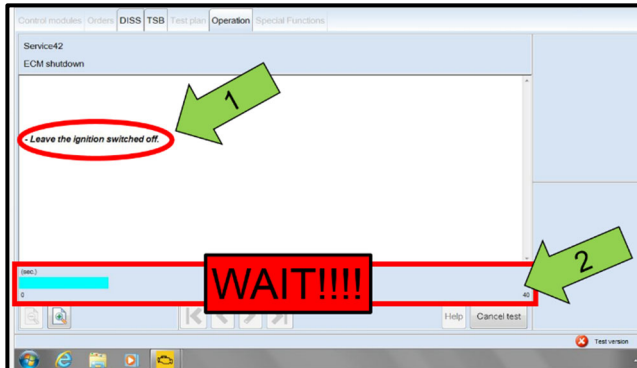
- When the SVM update is complete a confirmation message is displayed <as shown>.
- Select “Complete/Continue” <arrow>.

TIP

If the software in the vehicle is already current, a message may appear indicating this. If this occurs, complete the ODIS test plan and send the diagnostic protocol online.

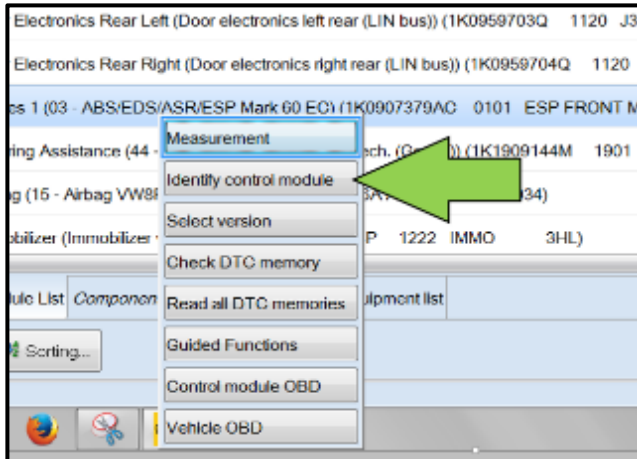
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NOTE

- It is **IMPERATIVE** that **ALL** of the ignition cycle on/off delay requests are fulfilled in their entirety during this flash process <arrow 1>.
- Failing to wait for the ignition on/off timing cycle to complete (progress bar and countdown timer <arrow 2>) before cycling the ignition on/off **MAY** damage a control module.
- Damage to control modules as a result of failing to wait the specified time displayed by the progress bar and countdown timer <arrow 2> are **NOT** covered under this action.



- After the software update is completed and before sending the GFF Log Online:
 - Select the “Control Module” tab.
 - Scroll down and right click on the module that was updated (0001).
 - Select “Identify Control Module” <arrow>.

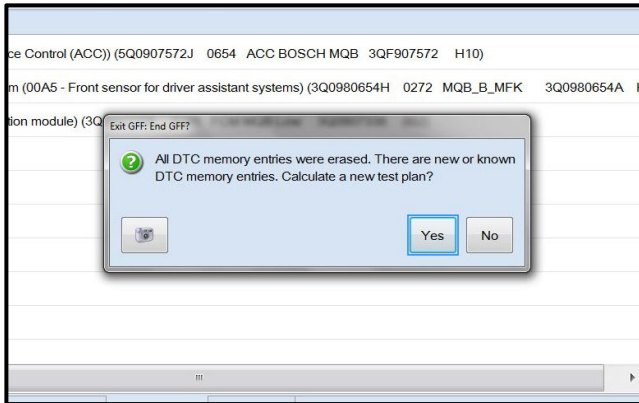
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⚠ CRITICAL REPAIR STEP



In rare cases, a P0606 fault with symptom code 32902 may set after three key cycles after performing a software update. In order to prevent a comeback the following steps must be followed.

- Turn off the ignition.
- Disconnect the diagnostic head from the OBD port.
- Wait 30 seconds.
- Turn on the ignition.
- Perform three key cycles (wait 30 seconds between each ignition off to on cycle).
- Reconnect the diagnostic head to the OBD port.
- Re-identify 0001-Engine Control Module.
- If, after re-identifying the ECM, fault P0606 with Symptom Code 32902 is stored:
 - See the “Important Repair Steps” at the end of this procedure.
- If no faults are stored:
 - Proceed to the next step.




- Exit GFF and send diagnostic protocol online when prompted.

NOTE

Static communication faults may store in various control modules during the flash. These faults can only be cleared by following one of these steps:

- Drive the vehicle a short distance (around the parking lot, for example).
- After selecting “Yes”, turn the ignition off for 30 seconds, turn it back on and repeat the GFF exit program.
- Clear faults using OBD (an additional key cycle may also be required).


- Release the parking brake.
- Disconnect the VAS tester.
- Switch off and disconnect the battery charger.
- Reinstall the battery cover.

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! IMPORTANT REPAIR STEPS


In rare cases, a P0606 fault with symptom code 32902 may set after three key cycles after performing a software update. In order to prevent a comeback repair these steps must be followed.

- If MIL is illuminated, check ECM fault memory using Guided Fault Finding.
- If fault P0606 *with symptom code 32902* is stored:
 - Upload a copy of the GFF log to GFF Paperless and/or save a copy of the OBD log for review by warranty (*10 additional TU can be paid ONLY if fault P0606 with symptom code 32902 is stored AND a GFF Paperless log is available or an OBD log showing the fault can be provided*)
 - Follow this workaround to clear the fault:
 1. Open hood and install a battery maintainer
 2. Using OBD, clear the individual fault in the ECM from the results tab
-OR-
Exit Diagnosis mode and select “Yes, continue diagnostic exit” when prompted
 3. Perform 3 key cycles
 4. If fault stays cleared, perform a bus sleep and re-evaluate fault. If fault remains cleared:
 - a. No further work is required
 - b. Proceed to Section C
 5. If fault remains:
 - a. Activate (Switch on) transport mode using Diagnosis mode or Self-diagnosis mode
 - b. De-activate (Switch off) transport mode using Diagnosis mode or Self-diagnosis mode
 - c. Exit Diagnosis mode and select “Yes, continue diagnostic exit” when prompted
 - d. Perform three key cycles
 - e. Recheck for fault
 6. If fault stays cleared, perform a bus sleep and re-evaluate fault. If fault remains cleared:
 - a. No further work is required
 - b. Proceed to Section C
- If the MIL is on and any fault other than P0606 *with symptom code 32902* is stored:
 - Perform normal diagnosis of fault.
 - Diagnosis and repair of any fault other than P0606 *with symptom code 32902* will not be covered under this action.


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Warranty



Claim Entry Instructions			
After Update has been completed, enter claim as soon as possible to help prevent work from being duplicated elsewhere. Attach the ELSA screen print showing action <i>open on the day of repair</i> to the repair order.			
If customer refused campaign work or vehicle is out of the specified warranty parameter for this Update:			
<ul style="list-style-type: none"> ✓ <u>U.S. dealers:</u> Submit request via WISE under the <i>Campaigns/Update/Recall Closure</i> option. ✓ <u>Canada dealers:</u> Upload the repair order [signed by customer] to Volkswagen WIN/Operations/Campaign Closure. 			
Service Number	24HV		
Damage Code	0099		
Parts Vendor Code	WVO		
Claim Type	Sold vehicle: 7 10 Unsold vehicle: 7 90		
Causal Indicator	Mark labor as causal		
Vehicle Wash/Loaner	<p>Do not claim wash/loaner under this action</p> <p>U.S.A.: Loaner/rental coverage cannot be claimed under this action. However, loaner/rental may be covered under the Alternate Transportation Program. Please refer to the Volkswagen Warranty Policy and Procedures Manual for loaner claims information and reimbursement details.</p> <p>Canada: Loaner/rental coverage cannot be claimed under this action. Please refer to the Volkswagen Service Loaner Program to determine loaner eligibility.</p>		
Criteria I.D.	01		
LABOR			
	Labor Op	Time Units	Description
	2706 89 50	10	Connect battery charger
	2470 25 99	Time stated on diagnostic protocol (Up to 40 TU)	Update engine control module software
<i>Add only if MIL is on with fault P0606 after the flash:</i>			
	0150 00 00	10	Perform OBD operations to clear fault

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- Additional Actions** Some of the affected vehicles may be involved in additional Actions. Please check your ELSA Campaign/Action Information screen so that any *additional required work can be done simultaneously*.
- Verifying Vehicle Eligibility** To verify vehicle eligibility for this Update, *always* check the ELSA Campaign/Action Information screen. The ELSA system is the *only* binding inquiry and verification system; other systems are not valid and *may result in non-payment* of a claim.
- Help for Claim Entry** For questions regarding claim entry, contact Volkswagen Warranty.
- Required Customer Notification** Inform your customer in writing by recording on the Repair Order any and all work that was conducted on the vehicle, including any and all updates completed under this Update.

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Required Special Tools

	<p>Battery Tester/Charger</p> <p>- GRX3000VAS-</p> <p>(or equivalent)</p>		<p>Diagnostic Tester</p> <p>-VAS6150X/VAS6160X-</p> <p>(or equivalent)</p>
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Additional Information

All parts and service references provided in this Update are subject to change and/or removal. Always check ELSA for the most current version of this document.