

Technical product information

Topic	Gear shift optimisation procedure - W12 TSI only
Market area	Bentley: worldwide (2WBE),Hongkong-Macau (5HK)
Brand	Bentley
Transaction No.	2053170/7
Level	EH
Status	Approval
Release date	

New customer code

Object of complaint	Complaint type	Position
power transmission -> power distribution, power flow -> power flow	functionality -> defective function sequence	
power transmission -> operation, shift and power flow control	component / consumables	
power transmission -> gearbox control operation	functionality	
power transmission -> gearbox control operation -> select gear/range	functionality -> without function / defect	
power transmission -> power distribution, power flow	functionality	

Vehicle data

New Continental GT/C and New Flying Spur

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
3S31BB	2018	E		*	*	*
3S31BB	2019	E		*	*	*
3S31BB	2020	E		*	*	*
3S31BB	2021	E		*	*	*
3S31BB	2022	E		*	*	*
3S41BB	2019	E		*	*	*
3S41BB	2020	E		*	*	*
3S41BB	2021	E		*	*	*
3S41BB	2022	E		*	*	*
ZG21BB	2020	E		*	*	*
ZG21BB	2021	E		*	*	*
ZG21BB	2022	E		*	*	*

Documents

Document name
master.xml

Customer statement / workshop findings

Customer reporting dissatisfaction with transmission shift quality in various driving conditions

- Prior to starting the instructions within this TPI, the Retailer must check and confirm the vehicle is in standard factory condition and has not had any non-approved aftermarket modifications conducted including the modification of the engine control modules (chip tuning)

Should any aftermarket modifications be found, the Retailer must make Product Support aware by raising a DISS query to report the details of the modification, you must then await feedback from Product Support before conducting any further repairs relating to the shift quality complaint

Technical background

IMPORTANT: To allow the engine and transmission to adapt to the customers driving style the vehicle MUST either have covered at least 1000 miles/1600 Km or must have been used over a six week period (which ever occurs first) before carrying out the instructions within this TPI

Prior to carrying out the instructions within this TPI, the Retailer must confirm with the customer that there is a transmission shift quality issue.

Once confirmed carry out the instructions within the Measure section of the TPI ensuring all instructions are strictly adhered to

- This TPI should only be conducted once per individual vehicle

Should this TPI have already been previously conducted and a transmission shift quality complaint is still evident, the Retailer must raise a DISS query

Production change

Not applicable

Measure

1) Record the transmission serial number as follows:

TIP: With the transmission fitted in the vehicle the serial number label cannot be viewed easily, the use of the mandatory Snap – On BK5600 borescope tool is required (or similar specification)

NOTE: For photographic purposes only the transmission is shown not fitted within the vehicle - Do not remove the transmission assembly

- The serial number label is located on the left hand side of the transmission as shown in Figures 1 and 2

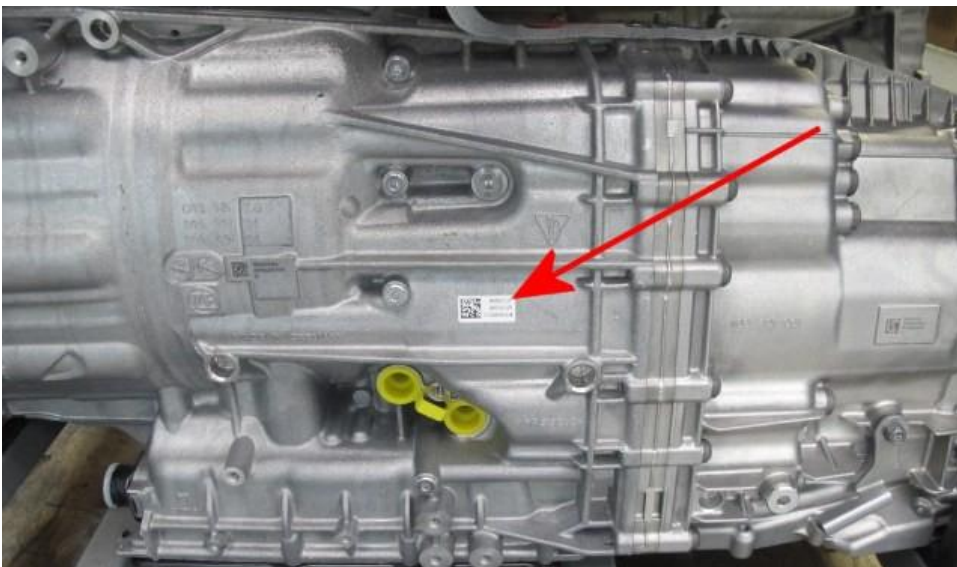


Figure 1



Figure 2

2) From the underside of the vehicle - Look up towards the left hand side of the transmission, the label is located above the transmission case webbing (Figure3)



Figure 3

- The operative should navigate the borescope probe and capture/save a photograph of the label as shown in Figure 4 (The labels shown are for photographic purposes only therefore the serial numbers shown are not from the same transmission and do not match)



Figure 4

3) Attach a copy of the label to a new DISS query or an already open DISS query



IMPORTANT: The ODIS version MUST be 2.26.7 or higher

4) From the diagnostic tool main desktop select the Off Board Diagnostic Information System _____

- Select – Start diagnosis
- Select – Model / Engine
- Carry out a Guided Fault Finding sweep of all control modules

5) Check and confirm there are no related DTC's within the Engine control modules and Transmission control module

IMPORTANT: Retailer to carry out an inspection of the vehicle to confirm no other issues are evident which could contribute to transmission shift complaints, consider the following:

- Misfires
- Check/confirm the powertrain and chassis mounts are to specification
- Check/confirm if any applicable parts have been recently replaced which can affect the Engine/Transmission and HVAC systems
- Have any sensors been replaced or are any sensor issues evident?
- Check and confirm the exhaust and intake system is fitted correctly
- Check and confirm with the customer that the correct fuel quality and fuel grade type has been used

IMPORTANT: The shift quality can be affected by any existing undiagnosed faults or DTC's.

As a result if any DTC's are found relating to the engine or transmission operation, for example engine control module DTC's, transmission control module DTC's, communication DTC's and Electronic Stability Control DTC's the issues MUST be diagnosed and resolved BEFORE proceeding any further

6) Engine and transmission Adaptions (Full Procedure)

- Check the automatic transmission oil level - Refer to repair manual Rep.Gr 38

NOTE: There are single use items within this procedure please ensure you have them available prior to starting the procedure

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It is imperative that the instructions within the repair manual are strictly adhered to regarding the checking and the topping up of the transmission oil, including the oil circulation adaption procedure



7) Save an online ODIS log to confirm that no DTC's were stored or no issues were evident prior to starting the procedure

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VERY IMPORTANT: The operative conducting this procedure must be aware of the following whilst the vehicle is undergoing this procedure during the current workshop visit

- Do not attempt to erase any DTC's from the engine control module/s and transmission control module
- Do not conduct a readiness test other than when instructed within this procedure
- Do not disconnect the battery whilst the CAN BUS is awake
- Failure to comply with any of the above will erase the previously set engine adaptations, therefore the complete process will require repeating

CAUTION: Ensure that any outstanding issues are resolved before commencing

IMPORTANT: Ensure that before the next part of the procedure is conducted (engine DTC adaptations clear) the engine must be at operating temperature (>90C)

8) Carry out the engine adaptations clear routine as follows:

- Referring to Figure 5 – Navigate to Test plan – Select own test

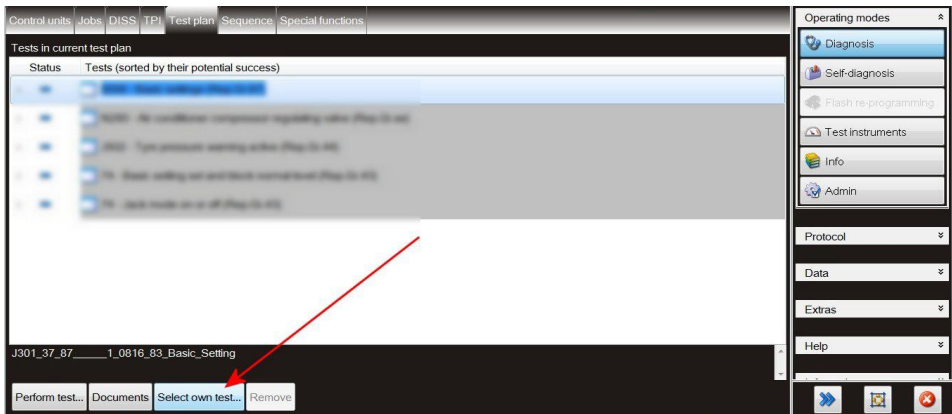


Figure 5

- Referring to Figure 6
- Select - Systems with diagnostic capability (Point A)
- Select - 0001 Engine Electronics (Point B)
- Select - Subsystems, marginal conditions (Point C)
- Select - Clear engine adaption (Point D)
- Select - Attach to Test plan (Point E)

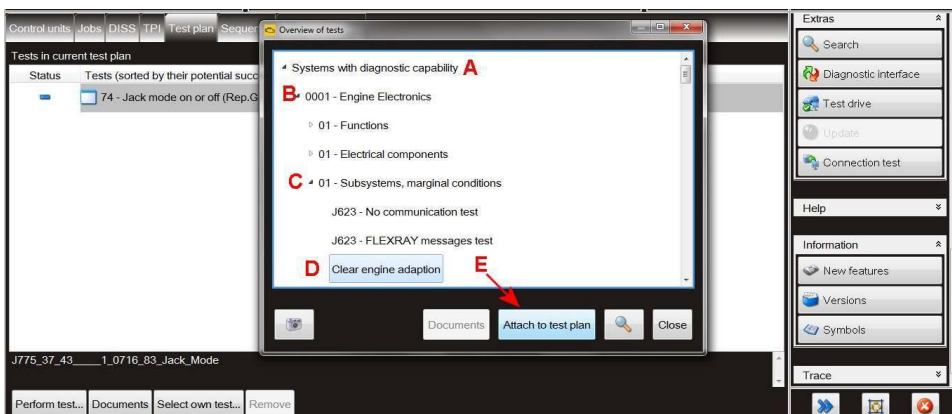


Figure 6

- Referring to Figure 7
- Follow the Clear engine adaption procedure until completion

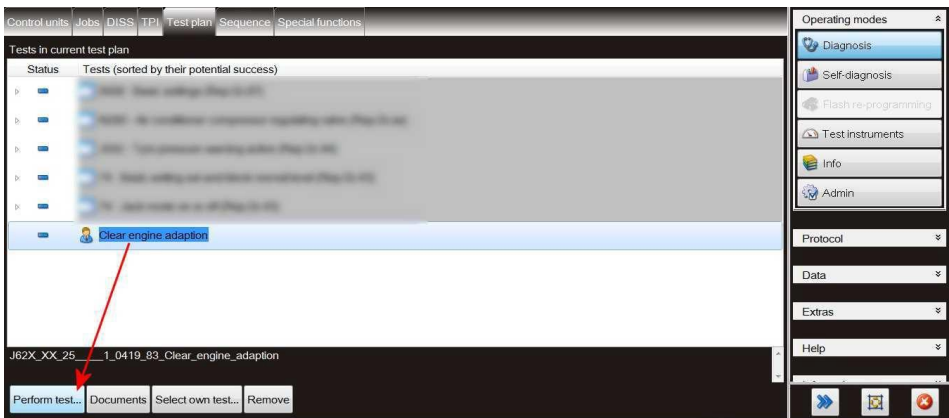


Figure 7

9) Referring to Figure 8, Once the Clear engine adaption procedure is completed the operative will automatically be guided to conduct the Readiness code procedure

- Select Perform test and follow all on screen prompts



- ENSURE NEUTRAL IS SELECTED DURING THE TEST WHEN INSTRUCTED AS DIRECTED BY ODIS

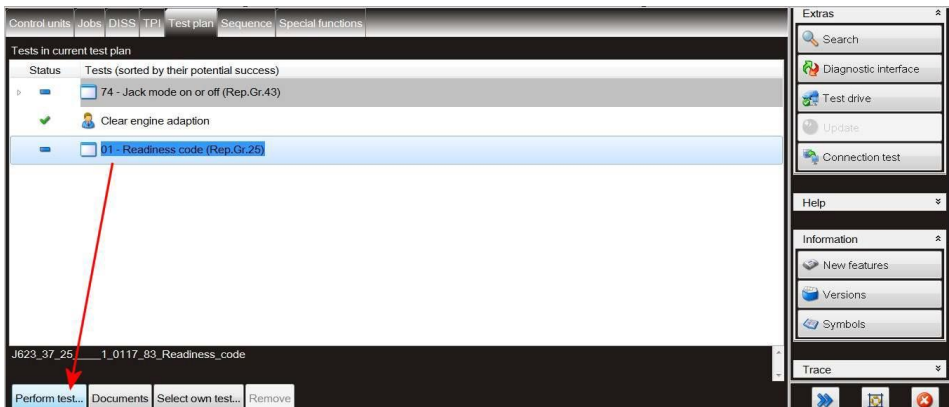


Figure 8

- Carry out the Readiness code test until complete as shown in Figure 9

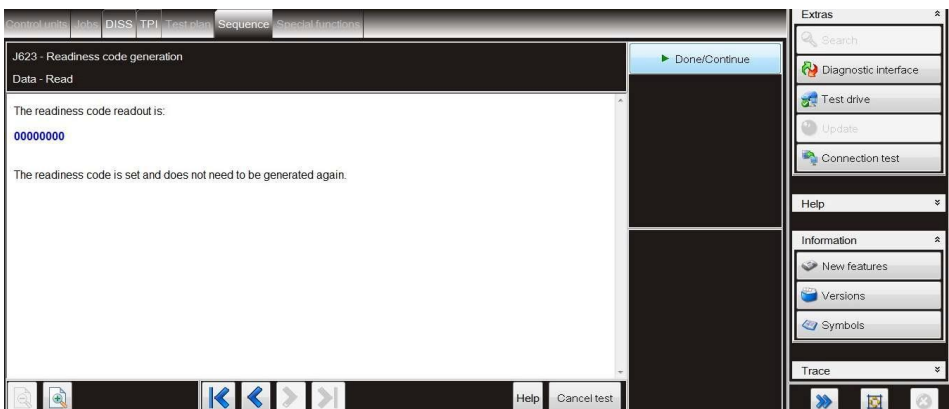


Figure 9

10) Idle torque adaptions - These must be done while the vehicle is stationary

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Ensure the Park brake is applied, the operative should also apply the footbrake for the duration of the torque adaptions procedure process

- Select Neutral and ensure the A/C is set to MAX (Figure 10) Allow the engine to idle for 30 seconds
- Select Drive and ensure that the A/C is set to MAX Allow the engine to idle for 30 seconds



Figure 10

- Select Drive and ensure that the AC is turned off (Figure 11) Allow the engine to idle for 30 seconds
- Select Neutral and ensure that the AC is turned off Allow the engine to idle for 30 seconds.

Repeat procedure 10 a further 3 times, (4 times total)



Figure 11

11) Set the off idle adptions:

The term manual mode is referred to within this procedure, to confirm manual mode MUST be selected by use of the gear selector and NOT the steering wheel paddles

When selecting manual mode with the gear selector you should then use the paddles to select the desired gear for example 5th gear whilst holding the engine speed at 2000 rpm

- Drive the vehicle at a steady cruise condition - Choose a gear in manual that allows as much vehicle speed as the road conditions allow whilst maintaining 2000 rpm and cruise in this condition for approximately 1 minute

Once complete, and in a suitable location - Stop the vehicle and cycle the ignition

Repeat the above process a further 3 times (4 times in total) IMPORTANT: the cycling of the ignition is imperative and MUST be done when requested

- ENGINE PROCESS NOW COMPLETE – MOVE TO TRANSMISSION ADAPPTIONS

12) Transmission resetting/setting adptions

Referring to Figure 12 - Navigate to address 02 – Transmission control module - Select Basic settings

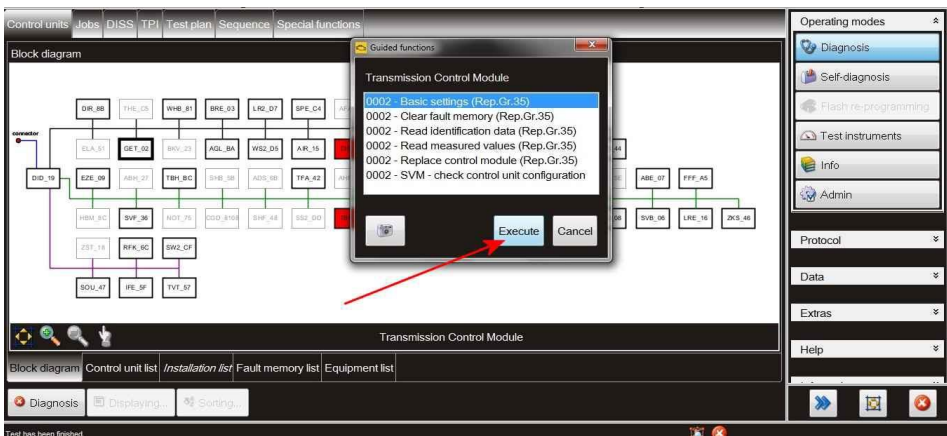


Figure 12

- Referring to Figure 13 - Carry out -2- Clutch adaption procedure
- Ensure all instructions within the Clutch adaption process are strictly adhered to

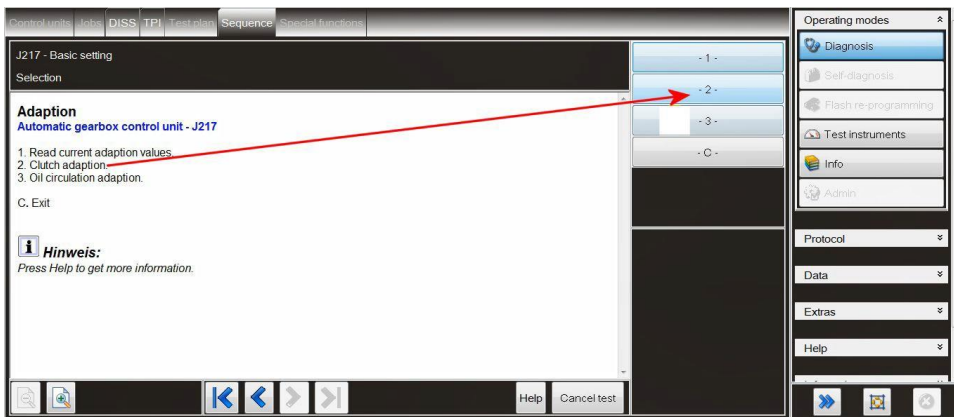


Figure 13

13) On completion of the Clutch adaption procedure carry out the onward Transmission adaption drive instructions

The term manual mode is referred to within this procedure, to confirm manual mode **MUST** be selected by use of the gear selector and **NOT** the steering wheel paddles

When selecting manual mode with the gear selector you should then use the paddles to select the desired gear for example 5th gear whilst holding the engine speed at 2000 rpm

- Drive at a steady cruise condition
- Select 5th gear in manual mode whilst holding the engine speed at 2000 rpm for 1 minute
- Once complete and in a suitable location - Stop the vehicle and cycle the ignition
- Repeat steps (a) to (c) a further 3 times (4 times in total in 5th gear) **IMPORTANT**: the cycling of the ignition is imperative and **MUST** be done when requested
- Drive at a steady cruise condition
- Select 6th gear in manual mode, whilst holding the engine speed at 2000 rpm for 1 minute
- Once complete, and in a suitably safe location - Stop the vehicle and cycle the ignition
- Repeat steps (e) to (g) a further 3 times (4 times in total in 6th gear) **IMPORTANT**: the cycling of the ignition is imperative and **MUST** be done when requested

NOTE: The above can be typically completed within 30km/20 miles where conditions allow

14) On return to the workshop

- Ensure a suitable battery charger is connected to the vehicle
- Using ODIS - Navigate to address 02 – Transmission control module
- Referring to Figure 14 - Select Basic settings

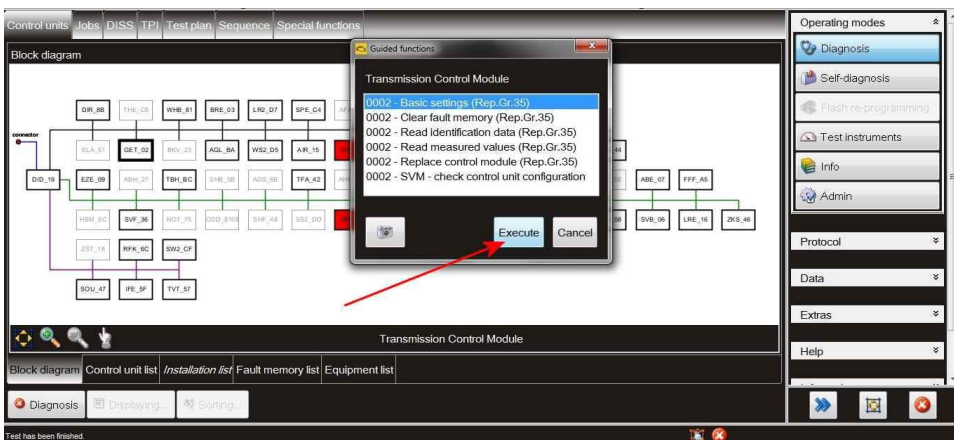


Figure 14

- Referring to Figure 15 - Select -1- Read current adaption values

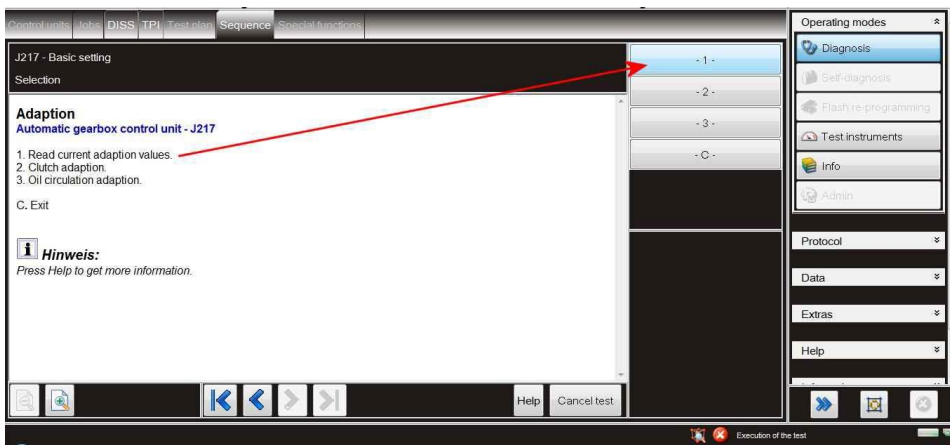


Figure 15

15) Referring to Figure 16 - Check and save the current adaption values

The adaption values must be as shown:

Clutch 1 and 2 - Sum of successful adaption routines MUST be 3 or above

Clutch 1 and 2 – Clutch pressure MUST be 3.0 or above

Should the required values not be achieved, please raise a DISS query and await feedback before carrying out any further work

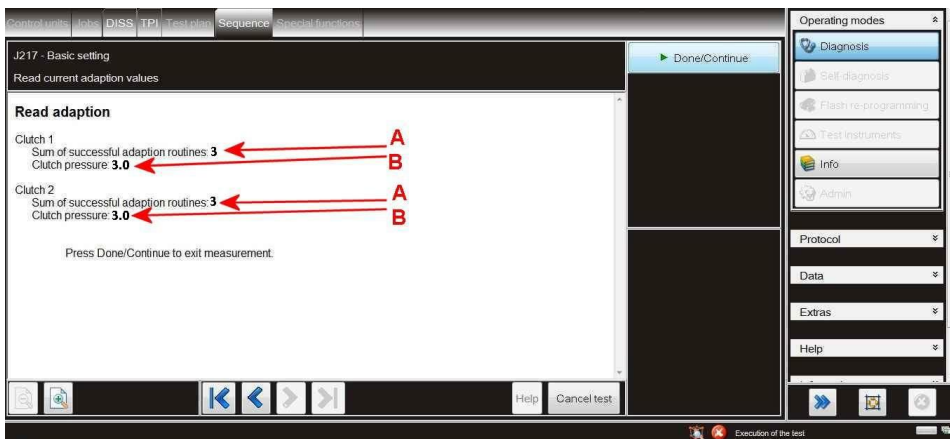


Figure 16

VERY IMPORTANT: After conducting this procedure the Retailer must be aware of the following whilst the vehicle is undergoing this procedure during the current workshop visit

- Do not attempt to erase any DTC's from the engine control module/s and transmission control module
- Do not conduct any further readiness code tests
- Do not disconnect the battery whilst the CAN BUS is awake
- Failure to comply with any of the above will erase the previously set engine adaptions, therefore the complete process will require repeating

VERY IMPORTANT: Upon returning the vehicle to the customer the Retailer should explain that the vehicle MUST be driven a further 40 miles/60 Km in various conditions (City driving and highway/single carriageway driving at various speeds) without completing an ignition cycle, however this can be conducted by the Retailer if required prior to handover

Warranty accounting instructions

Time to conduct procedures 1 – 15

Warranty Type 110 or 910

Labour Operation Code 37 35 05 00

Damage Service Number 37 35

Damage Code 00 10

Time 430 Time units