

SERVICE CAMPAIGN BULLETIN

CAMPAIGN REF : 011

TITLE : Software platform release

DOCUMENT # : 11 M 019

AFFECTED VEHICLES : 12C Coupe

SITUATION : Quality Engineering at McLaren Automotive have released a new software platform to the dealer network that eliminates various software errors and offers improved functionality of the vehicle. A further software release will be launched in due course; however, it is necessary to update the existing software prior to the next release. The most noticeable customer benefits of this software download include:

- Fuel range calculation operates to empty with improved algorithm.
- Improved low fuel warning accuracy with additional very low fuel message.
- Erroneous low coolant messages eradicated.
- Option to choose date in MM/DD format included.
- Oversensitive airbag warning message on start up reduced.
- Increased stability and power management of the IRIS system, with the introduction of Traffic Programme (TP) to the radio section.
- Co-ordination of the date within the IRIS system and Instrument Cluster improved.

It is necessary to install the software updates on all affected vehicles. The latest software requirements are listed below:

PROCEDURE :

MODULE	NEW SOFTWARE PART NUMBERS
Powertrain Chassis Control Unit (PCCU)	11M0938CP.11
Switch Control Unit Gateway (SCUG)	11M1290CP.02
Electronic Stability Program (ESP)	11M1125CP.03
Instrument Cluster (IC)	11M1180CP.08
Steering Angle Sensor (SAS)	11M1099CP.03
Head Unit / IRIS (HU)	11M1370CP.01
Engine Control Module (ECM) – EURO	11M1399CP.03

Care point: Ensure 11 M 012 “IRIS reception and operational stability issues” bulletin is not outstanding. This bulletin needs to be performed prior to this software update in order to take full effect. The VIN’s that are affected by both bulletins are outlined in the appendix section.

Care point: It is a requirement to make notes of your findings at indicated points within this bulletin. Please enter the results on this documentation. It is necessary to scan the bulletin and send it back through the created work package.

Care point: The download process can take up to 3 hours to perform. Ensure that the work is performed in an area that the vehicle will not be disturbed for this timeframe. An electrical source will also be necessary to power the McLaren Diagnosis System (MDS) and Deutronic battery charger.

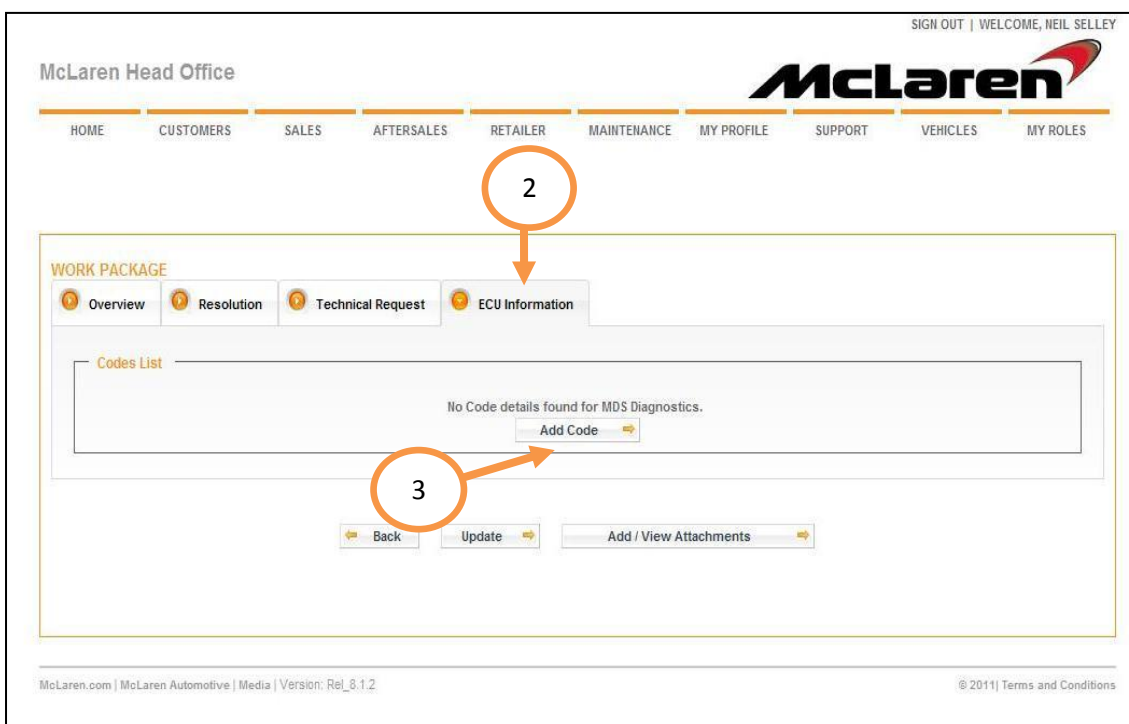
WORK PACKAGE SECTION

Care point: Always refresh internet explorer before opening another work package.

1. A work package must be created prior to commencing work on each vehicle. McLaren Automotive will send an e-mail to relevant personnel within the dealer network which contains data that must be entered within the work package. Find the VIN number of the vehicle that you are going to work on and the coding string, short text and long text will be alongside (1).

	A	B	C	D
1	VIN Number	Coding String	Short Text	Long Text
2	SBM11AAC1BW000001	3101041901010101030101030200000007010102000101000100010000000104010001	(SBM11AAC1BW000001	Press OK to Code IC
3	SBM11AAA3CW000002	3101041901010101030101030200000007010102000101000100010000000104010001	(SBM11AAA3CW000002	Press OK to Code IC
4	SBM11AAC5BW000003	3101041901010101030101030200000007010002000101000100010000000104010101	(SBM11AAC5BW000003	Press OK to Code IC
5	SBM11AAC7BW000004	3101041901010101030101030200000007010002000101000100010000000104010101	(SBM11AAC7BW000004	Press OK to Code IC
6	SBM11AAC9BW000005	3101041901010101030101030200000007010002000101000100010000000104010101	(SBM11AAC9BW000005	Press OK to Code IC

2. Open a work package within the dealer portal and within the ECU information section (2) select add code (3).



The screenshot shows the McLaren Head Office dealer portal. The top navigation bar includes links for HOME, CUSTOMERS, SALES, AFTERSALES, RETAILER, MAINTENANCE, MY PROFILE, SUPPORT, VEHICLES, and MY ROLES. The 'ECU Information' tab is selected under the 'WORK PACKAGE' section. Below the tab, there is a 'Codes List' area with a message: 'No Code details found for MDS Diagnostics.' An 'Add Code' button is visible in this area. At the bottom of the page, there are links for 'Back', 'Update', and 'Add / View Attachments'.

3. Add the coding string IC_VARIANT_02 displayed in the drop down menu (4).

The screenshot shows the McLaren Head Office interface. The 'WORK PACKAGE' section has tabs for Overview, Resolution, Technical Request, and ECU Information. The 'Codes List' field is empty. A 'Create Code' dialog box is open, showing a 'Variant' dropdown menu with 'IC_Variant_01' selected. An orange circle with the number 4 points to the selected item.

4. Populate the coding string with the data provided and copy and paste the short text and long text fields from the details in the e-mail (5). Click save once completed (6).

The screenshot shows the McLaren Head Office interface. The 'WORK PACKAGE' section has tabs for Overview, Resolution, Technical Request, and ECU Information. The 'Codes List' field is empty. A 'Create Code' dialog box is open, showing a 'Variant' dropdown menu with 'IC_Variant_01' selected. The 'Coding String' field is populated with '31010419010101010103010'. The 'Short Text' field is populated with 'SBM11AAC1BW000001'. The 'Long Text' field is populated with 'Press OK to Code IC'. An orange circle with the number 5 points to the 'Coding String' field, and an orange circle with the number 6 points to the 'Save' button.

5. Once the coding list field has been populated select the update button (7)

SIGN OUT | WELCOME, NEIL SELLEY

McLaren Head Office

HOME CUSTOMERS SALES AFTERSALES RETAILER MAINTENANCE MY PROFILE SUPPORT VEHICLES MY ROLES

WORK PACKAGE

Overview Resolution Technical Request **ECU Information**

Codes List

Coding List	Short Text	Long Text	Action
31010419010101010103010103020000000701010200010100	SBM11AAC1BW000001	Press OK to Code IC	

1 Record(s) found, displaying 1 Record(s). Page 1 / 1.

[Add Code](#)

[Back](#) [Update](#) [Add / View Attachments](#)

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REMOVAL :

6. Please refer to A-RM-02A02-03-004 - Remove/Install luggage bin – rear.

Care point: In order to avoid injury and damage to the vehicle do not connect positive terminal (+) to negative terminal (-). Ensure connections are secure. Do not place any metal objects near the battery when charging and do not place the Deutronic battery charger directly onto the battery unit.

7. Keep battery on charge, using Deutronic battery charger, during the downloading procedure.

8. Attach the McLaren Diagnostic System (MDS). Once a quick test has been performed record all Diagnostic Trouble Codes (DTC)'s within the affected control units on the table below:

STORED DIAGNOSTIC TROUBLE CODES		

[illegible]

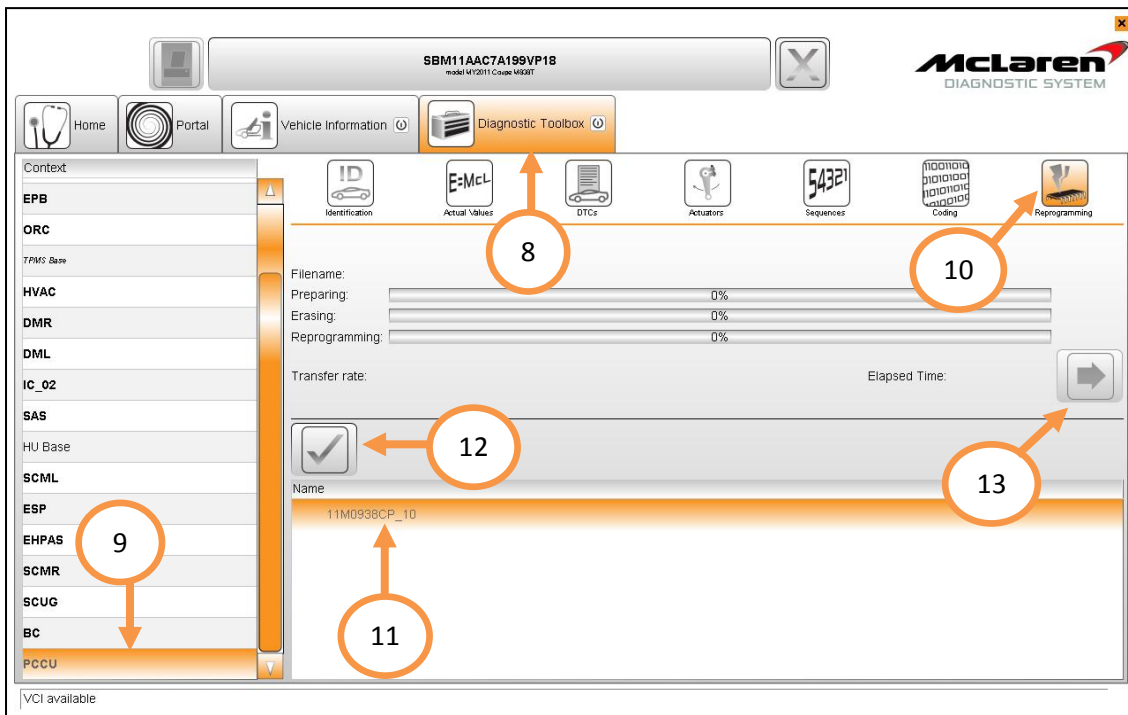
Care point: All software downloads require the vehicle to be in ignition state 5.

Care Point: During software download process it is normal for the instrument cluster lights to extinguish temporarily.

POWERTRAIN CHASSIS CONTROL UNIT SOFTWARE

Care point: During the downloading sequence the system may state preconditions or post conditions failed. These are erroneous messages and can be ignored. The PCCU download will take approximately 18 minutes to download. Only a programming failed message should be noted as a legitimate failure.

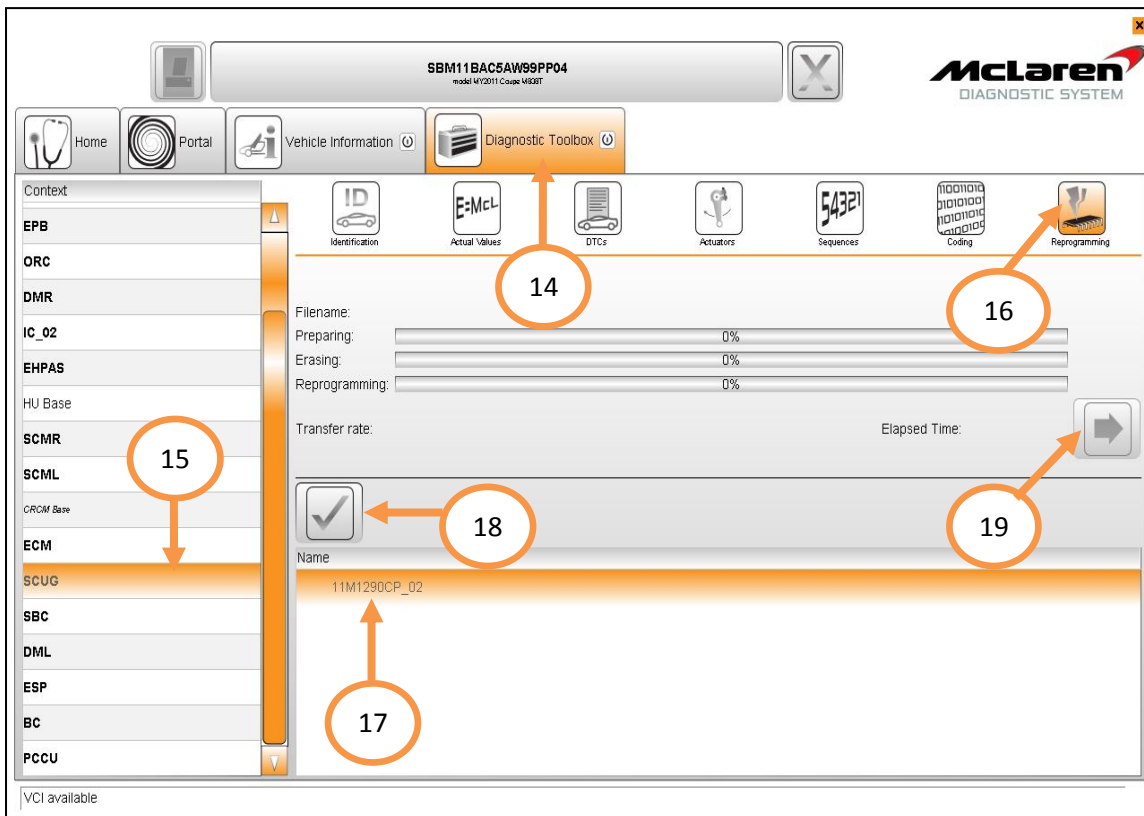
9. Within MDS proceed to the Diagnostic Toolbox (8). Select PCCU (9) then reprogramming (10). Select software level 11M0938CP.11 (11) and proceed to the software download by selecting the tick button (12) followed by the arrow button (13).



10. Cycle the ignition. Ensure the vehicle is returned to ignition state 5 in order to continue on with the download process.

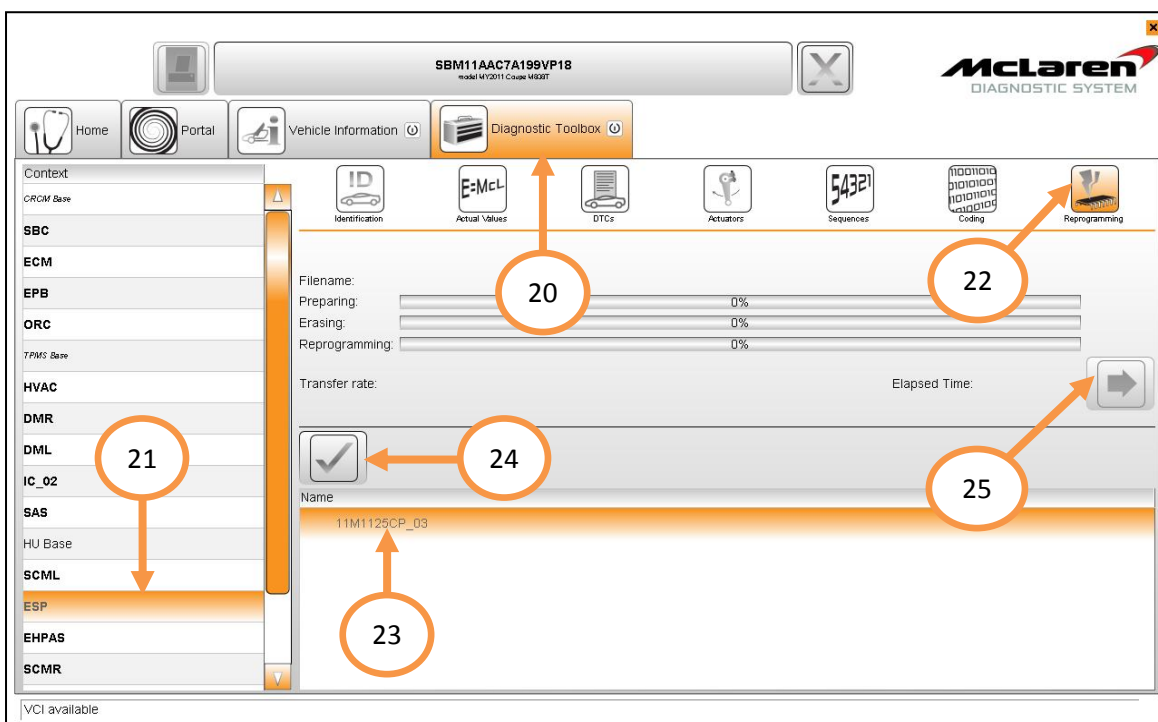
SWITCH CONTROL UNIT GATEWAY SOFTWARE

11. Within MDS proceed to the Diagnostic Toolbox (14). Select SCUG (15) then reprogramming (16). Select the software level 11M1290CP.02 (17) and proceed to the software download by selecting the tick button (18) followed by the arrow button (19).

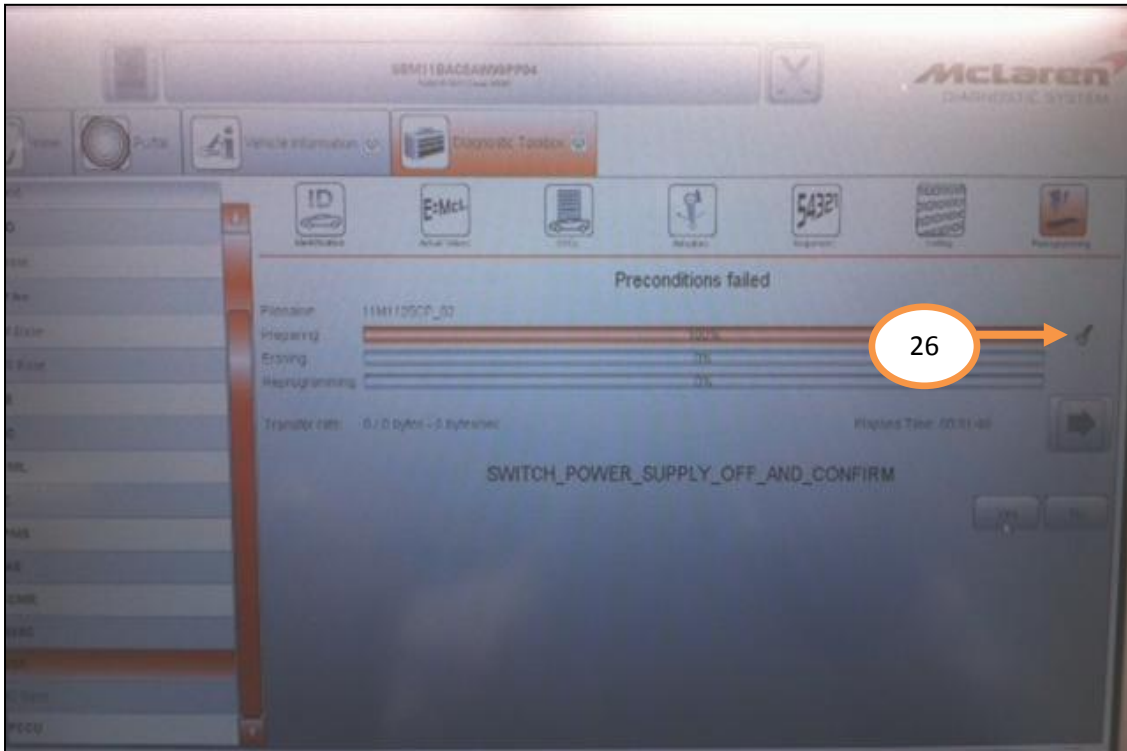


ESP SOFTWARE

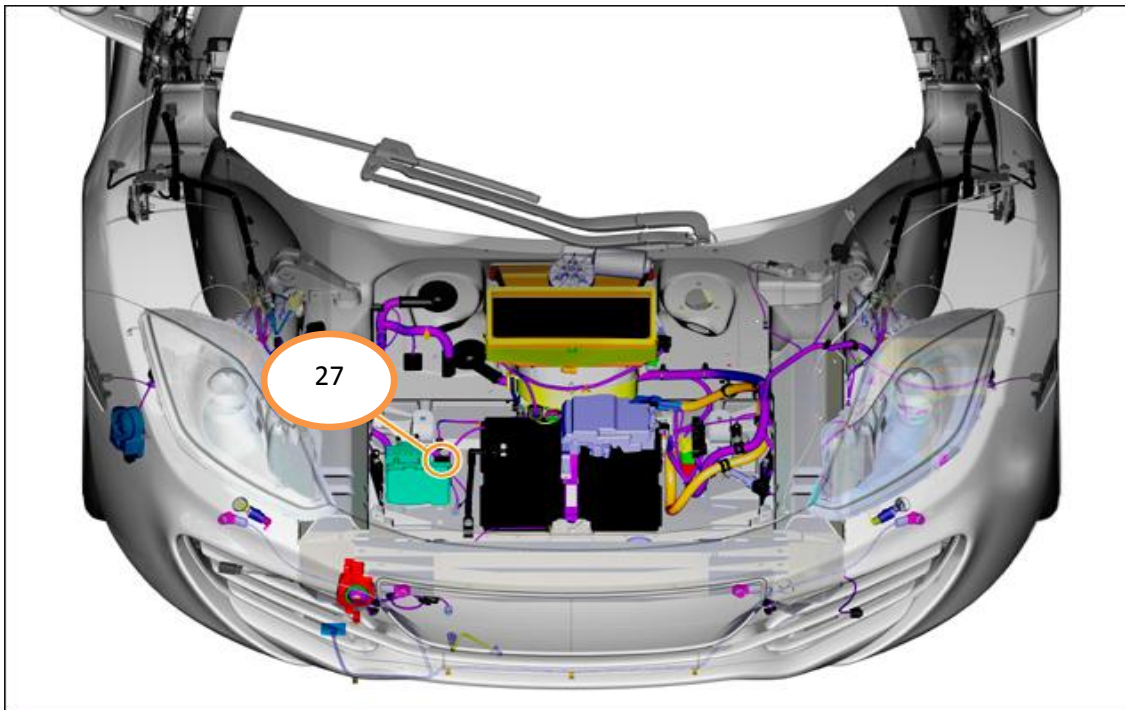
12. Within MDS proceed to the Diagnostic Toolbox (20). Select ESP (21) then reprogramming (22). Select software level 11M1125CP.03 (23) and proceed to the software download by selecting the tick button (24) followed by the arrow button (25).



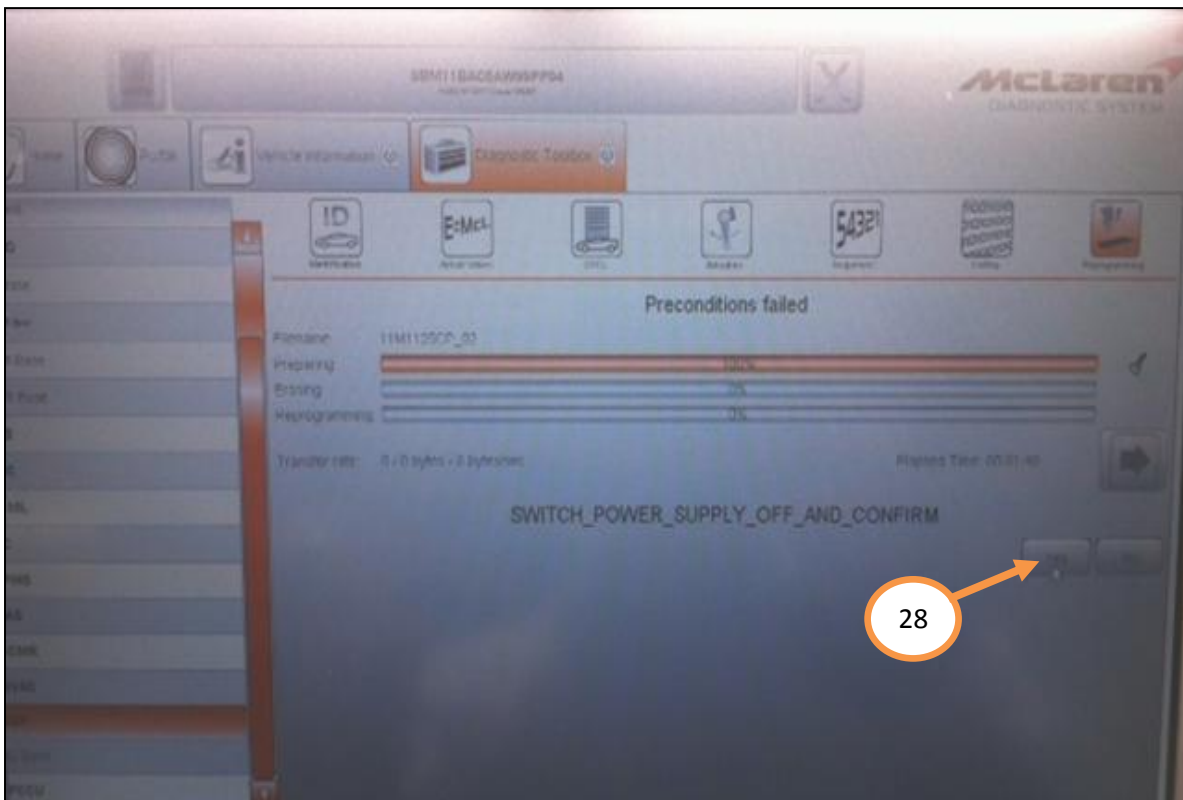
13. If the download is successful proceed to point 16. After the preparation phase of the download the system **may** inform the operator that the “Preconditions failed”. In this circumstance the ESP control unit will require a power cycle (26).



14. Disconnect the ESP connector (27) and wait for 5 seconds before reconnecting.



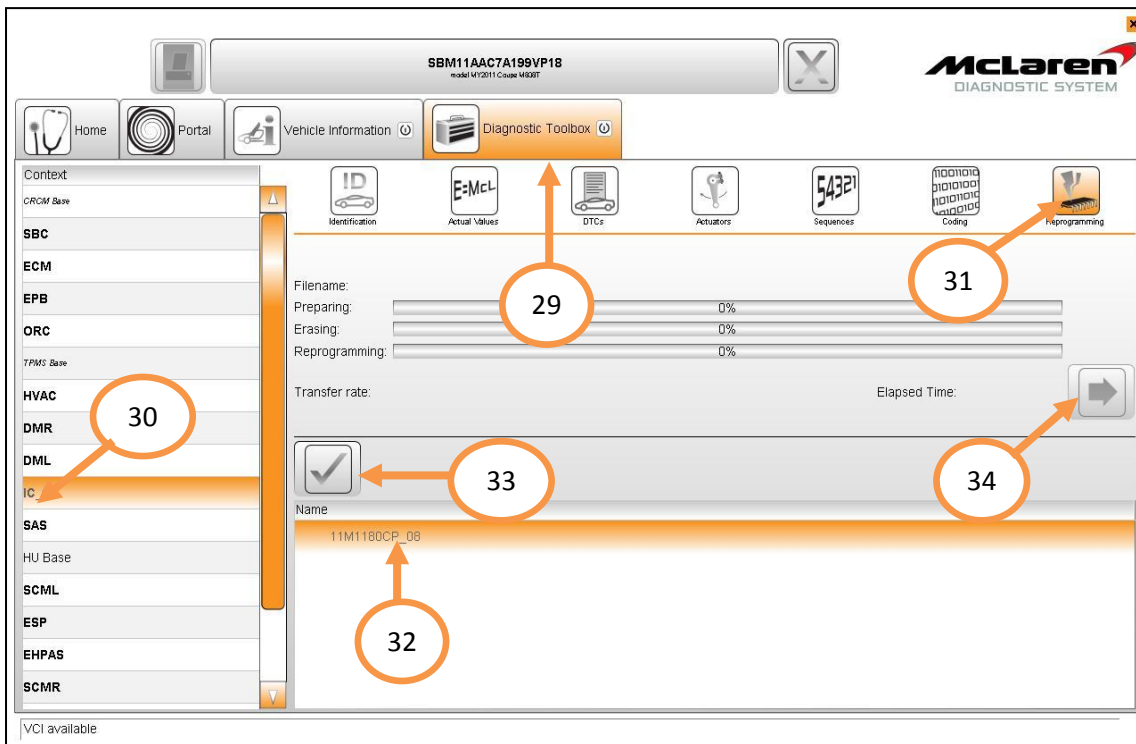
15. Press the YES button within 5 seconds of reconnecting the ESP connector in order to complete the software download (28).



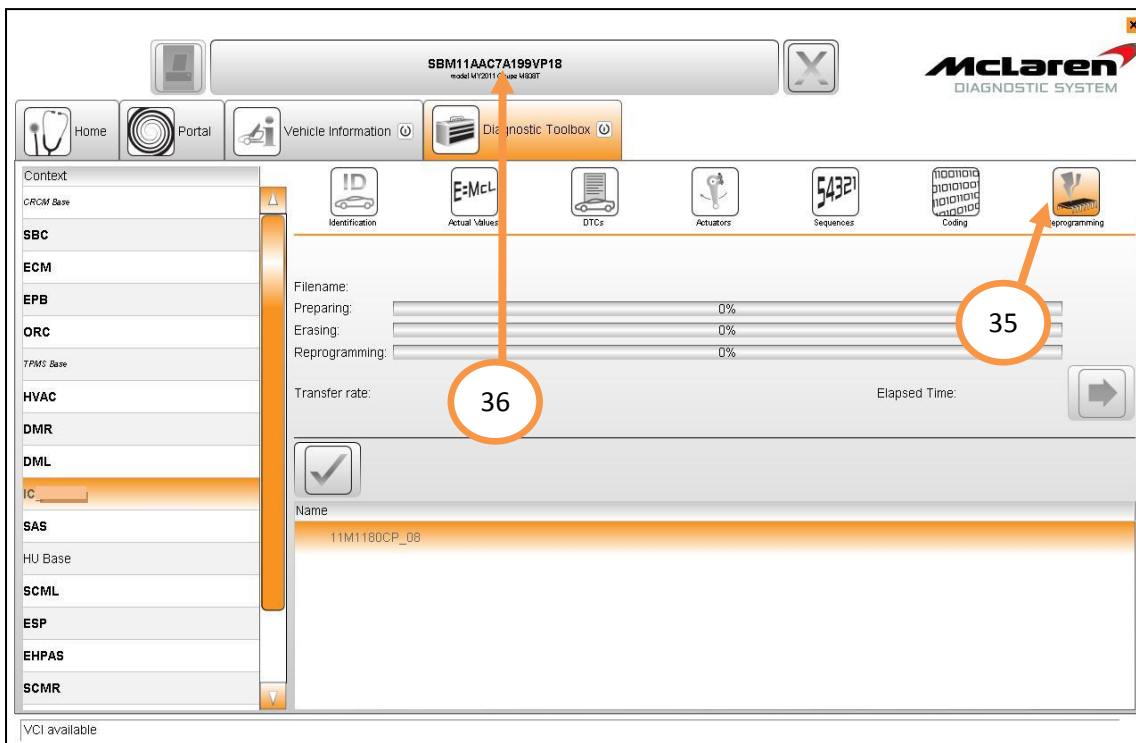
INSTRUMENT CLUSTER SOFTWARE

Care point: Software update to the Instrument cluster will improve accuracy of fuel range indicator. Therefore 11 M 004 "Fuel range indicator inaccurate" bulletin can be reversed.

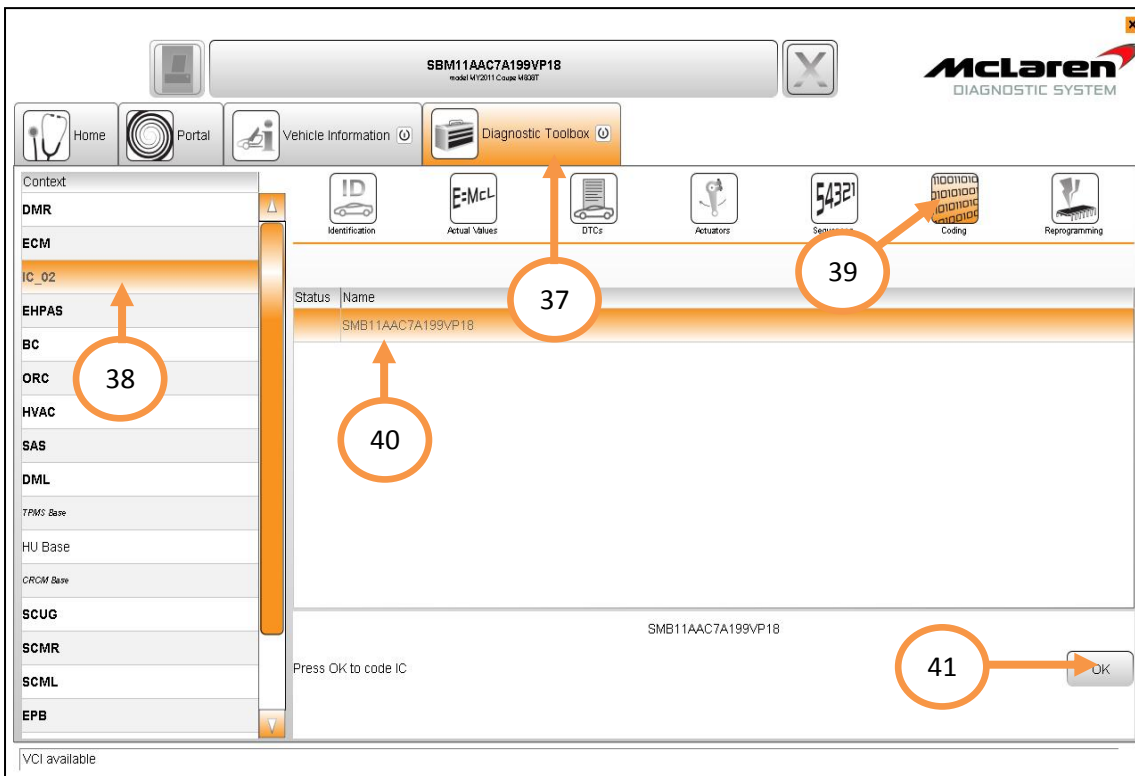
16. Within MDS proceed to the Diagnostic Toolbox (29). Select IC (30) then reprogramming (31). Select software level 11M1180CP.08 (32) and proceed to the software download by selecting the tick button (33) followed by the arrow button (34).



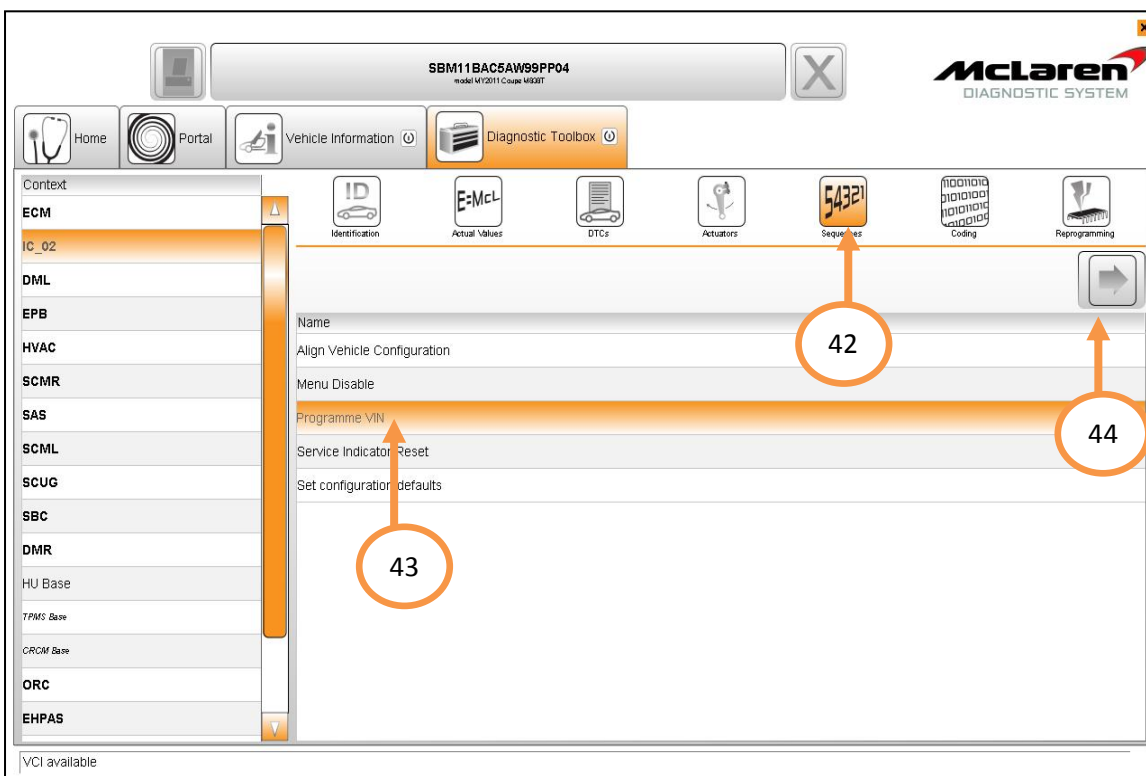
17. Once the download is successful enter the reprogramming section (35) and select the chassis button (36) to re-enter the scan now page. It is necessary to re-scan the vehicle.



18. Once the vehicle has been re-scanned proceed to the Diagnostic toolbox (37). Select the Instrument Cluster button which will have changed to IC-02 (38). Enter the coding section (39). Check the VIN number displayed is correct and select (40). Click OK to continue (41).

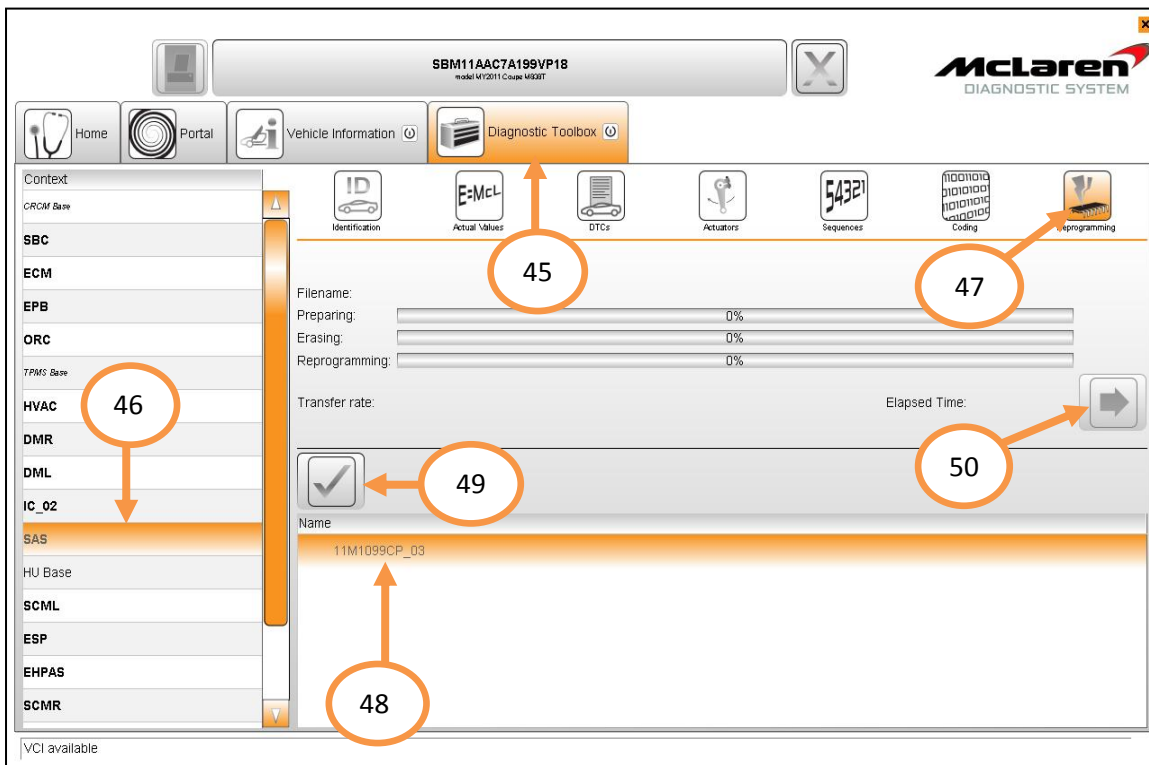


19. Once the download is successful enter the Sequences section (42) and proceed to Programme VIN (43). Click arrow button when complete. (44).



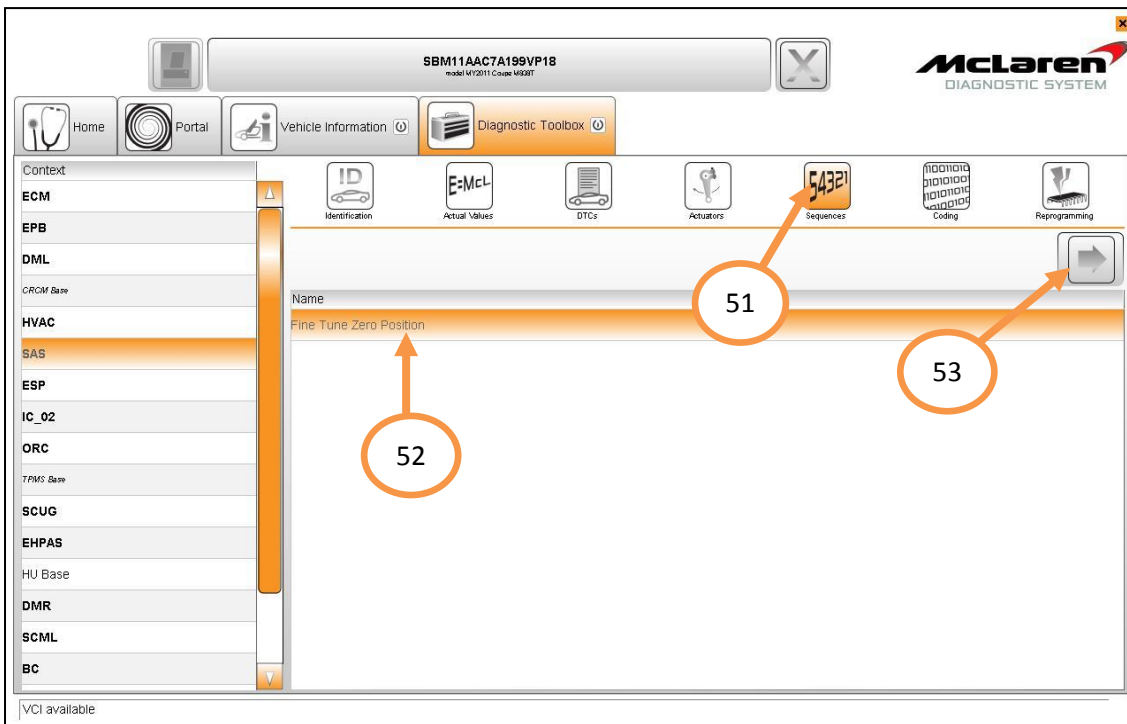
STEERING ANGLE SENSOR SOFTWARE

20. Within MDS proceed to the Diagnostic Toolbox (45). Select SAS (46) then reprogramming (47). Select software level 11M1099CP.03 (48) and proceed to the download by selecting the tick button (49) followed by the arrow button (50).

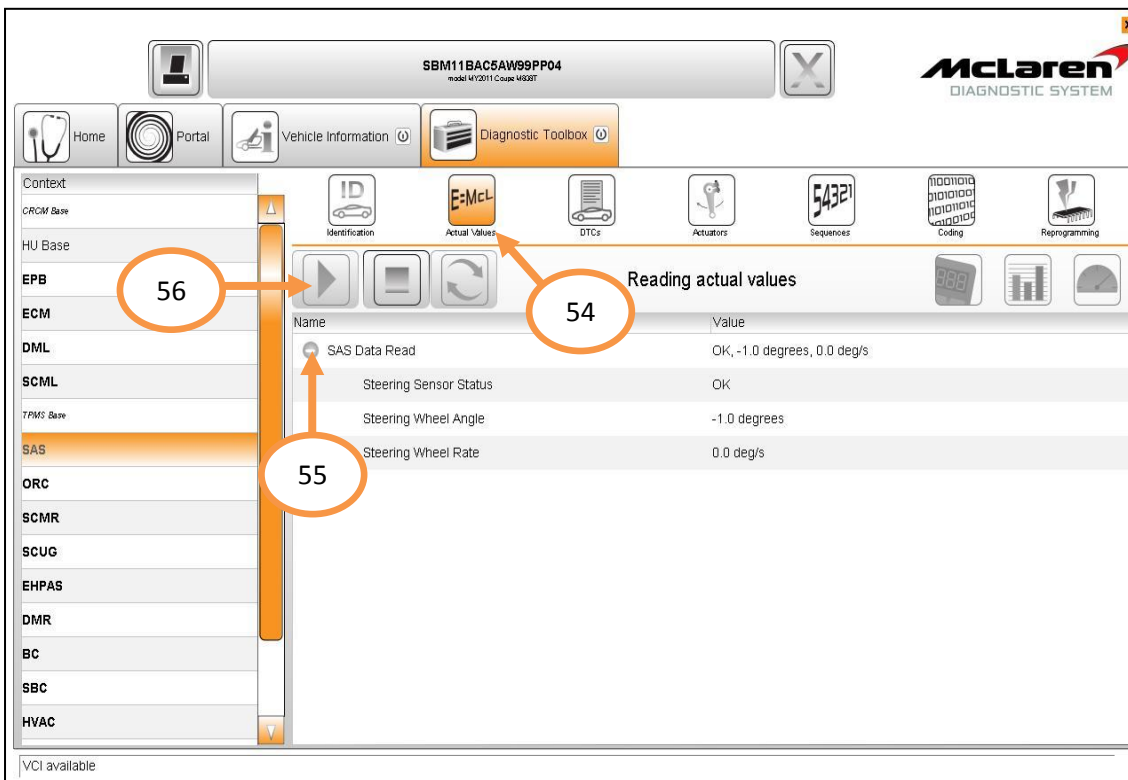


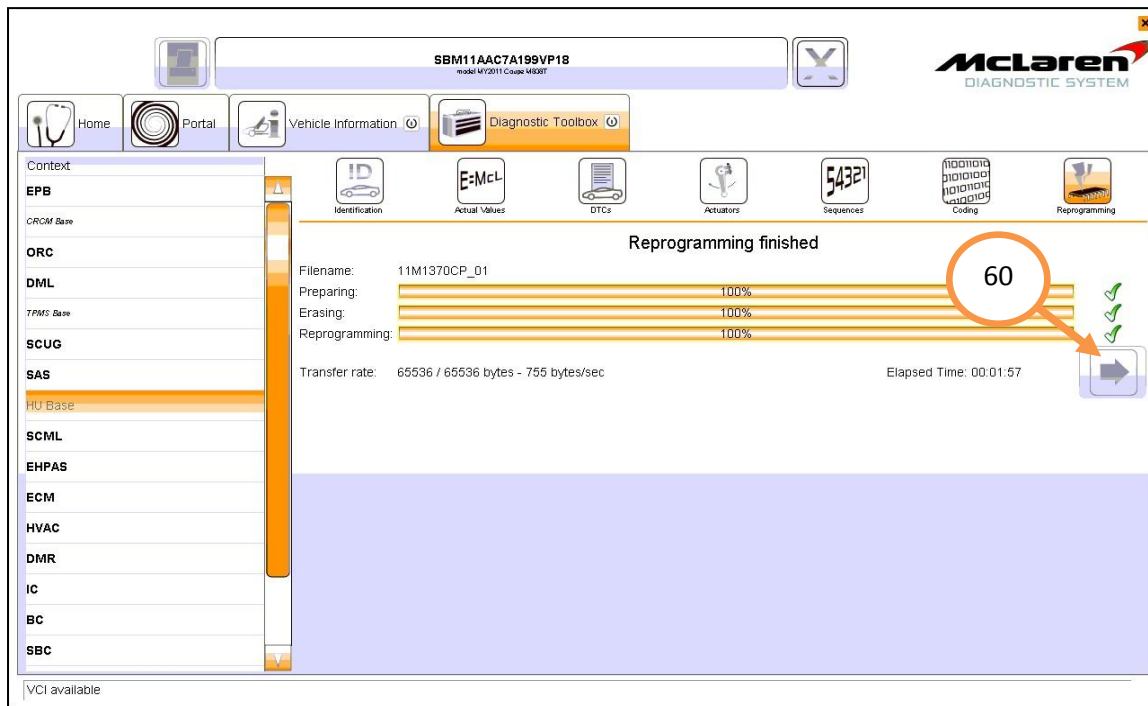
Care point: Ensure front wheels are pointing straight ahead before continuing.

21. Once the latest software has been installed you will be required to fine tune the zero position. Still within the SAS section select the Sequences section (51) and select the Fine Tune Zero Position tab (52) then press the arrow button (53).

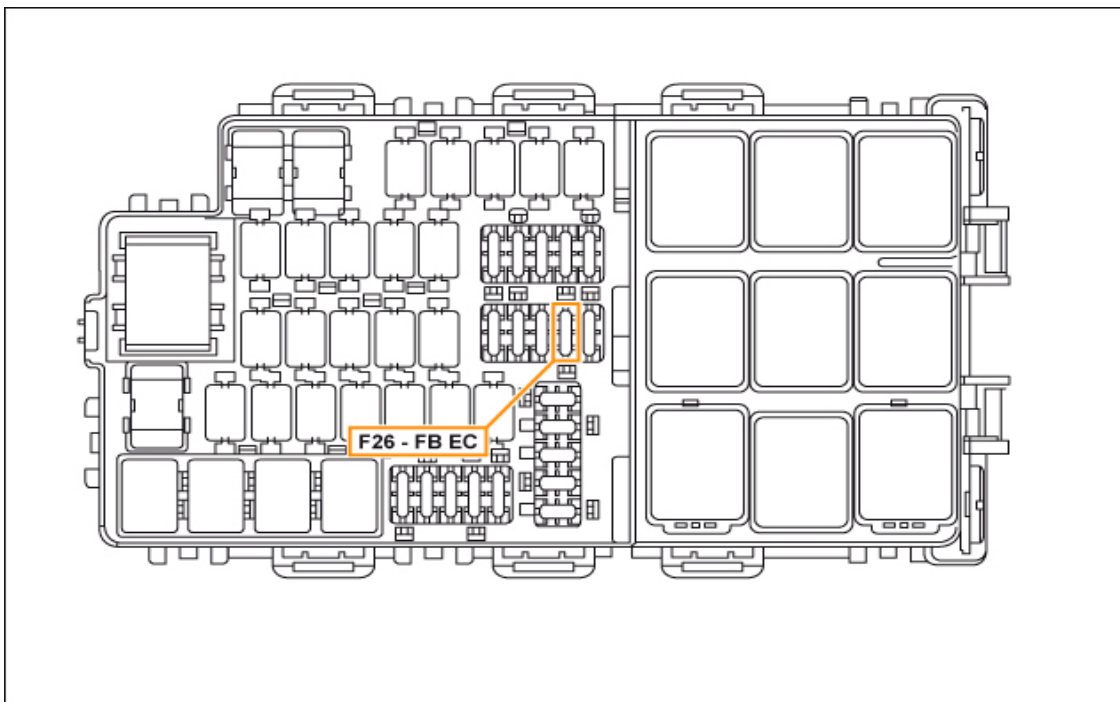


22. Check for any stored Diagnostic Trouble Codes (DTC's) within the DTC's section. If there are any stored codes clear them down.
23. Switch on ignition so engine is running. Select Actual Value (54) followed by the SAS Data Read (55). Select the play button to access the require data screen (56). Turn the steering wheel left and right at full lock. Check that the Value reading is zero when steering is central. Check if DTC's have re-occurred.





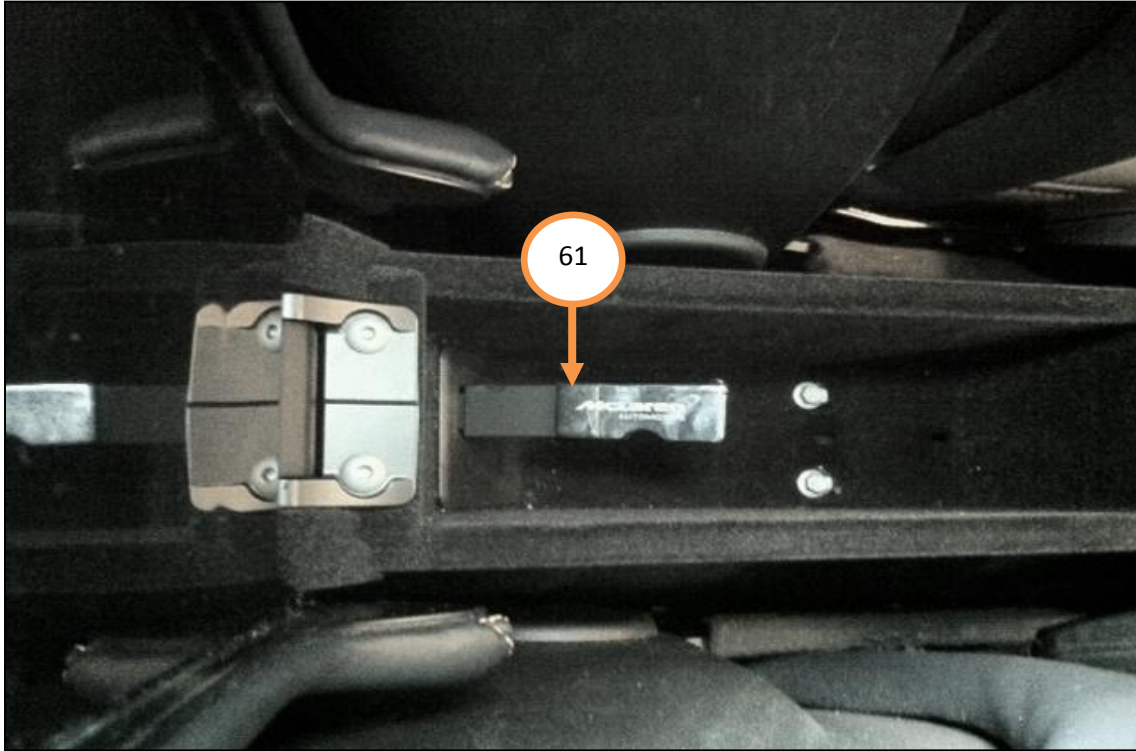
27. If the reprogramming is unsuccessful exit to the 'Scan Now' page. Re-start Vehicle Communication Interface (VCI) and re-cycle the ignition and repeat points 25-26.
28. Switch vehicle back to ignition state 2 and allow vehicle to sleep.
29. Remove the main fuse box access cover.
30. Remove the In Car Personal Computer (ICPC) fuse 26 within the main fuse box, as shown below. Re-insert ICPC fuse after 5 seconds. Instructions how to remove this fuse can be found on pages 169 -170 within the Owner's Manual.



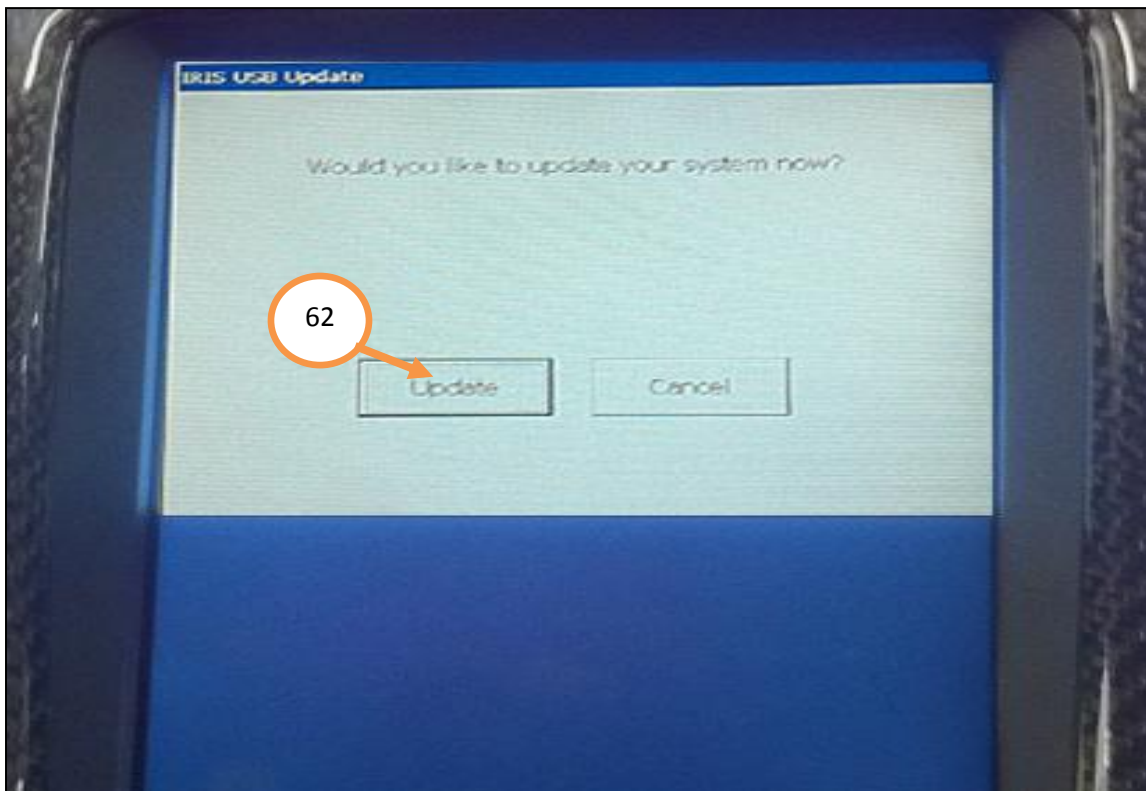
31. Proceed to the software section on the HU and check the CPU and DU firmware are updated to version 1140.

Care point: USB drive must be inputted with gold tabs facing downwards.

32. Insert the USB drive (11M1369CP) in the USB socket (61)



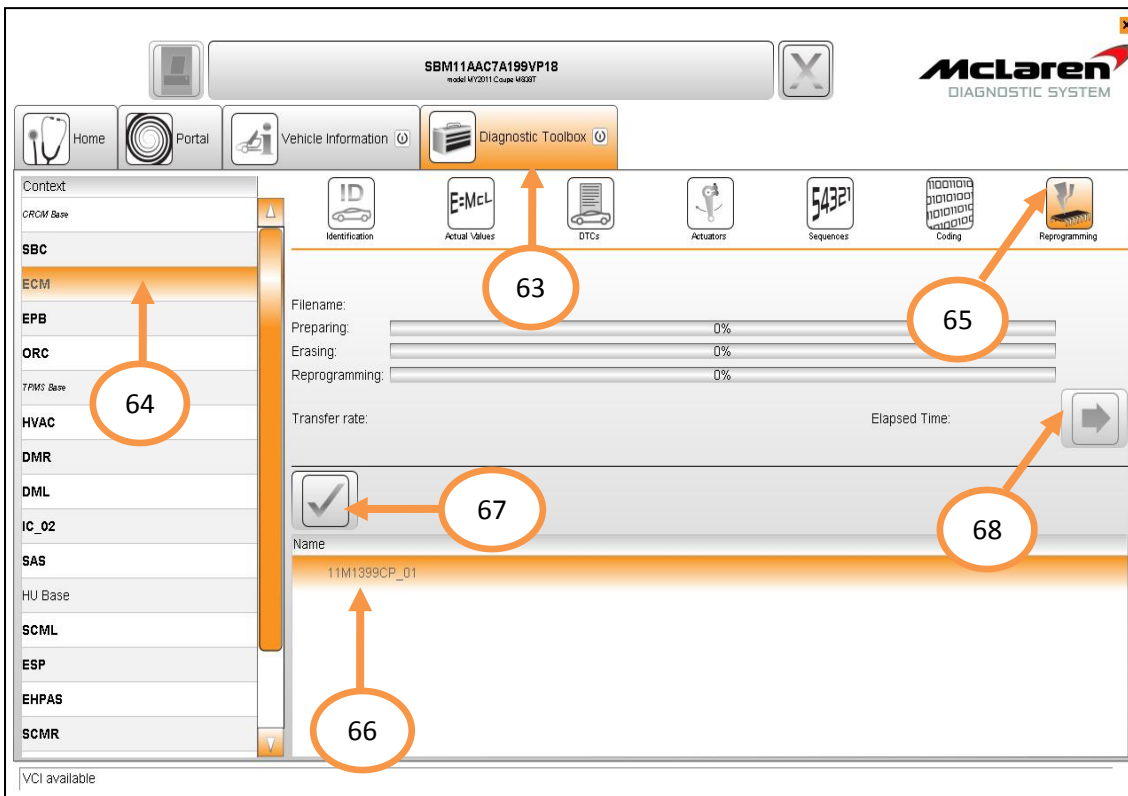
33. Check HU screen. Press update when instructed (62) and remove pen drive when finished.



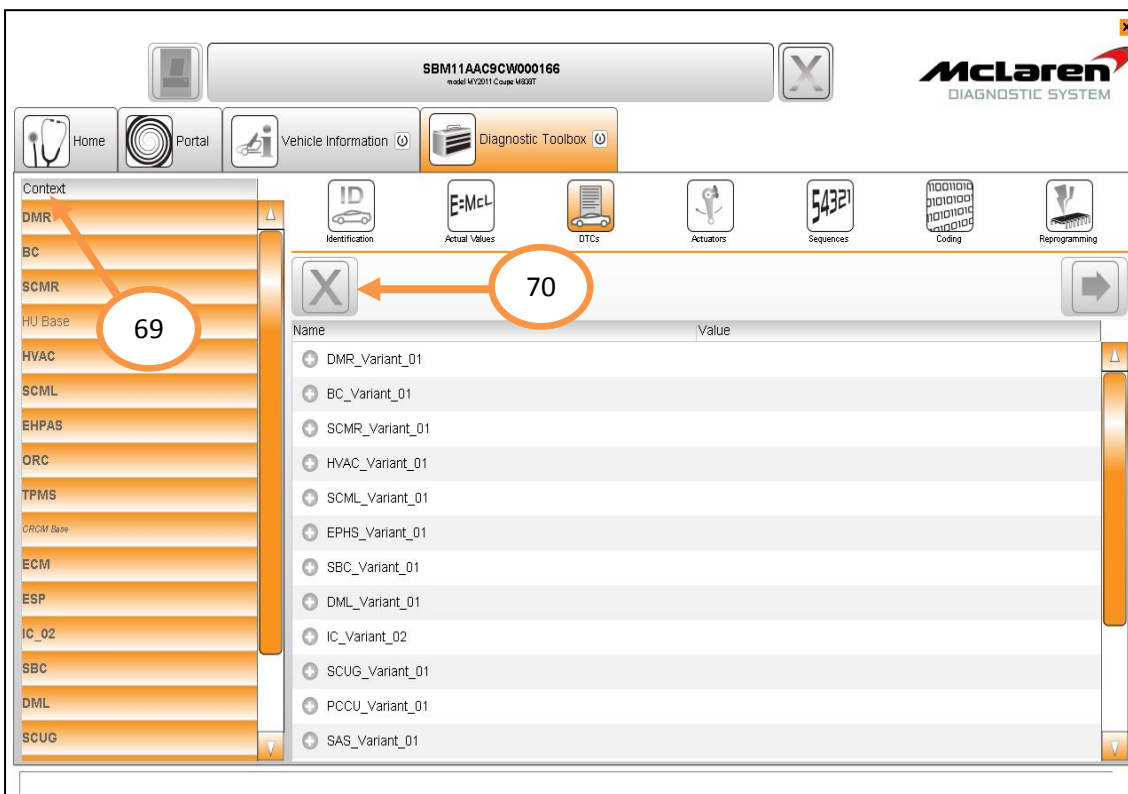
34. Reboot IRIS system.
35. Perform an ignition cycle and ensure vehicle returns to ignition state 5.
36. Select radio on the IRIS system and turn radio on. Ensure the TP is switched off. Select available stations and scroll down to the bottom. If there is a flashing radio icon wait as the system will still be finding stations. Scroll back again to the top once complete.
37. Select the back button then the fast forward button. Hold down button 1 to store a radio station. Repeat the process until all six options are populated.
38. Close the doors with the radio operational. Lock the vehicle and check the IRIS unit goes to sleep within two minutes. Wait for the lock button to start flashing and unlock the vehicle.
39. Check IRIS is operation normally.

ENGINE CONTROL MODULE SOFTWARE

40. Within MDS proceed to the Diagnostic Toolbox (63). Select ECM (64) then reprogramming (65). Select software level 11M1399CP.03 (66) and proceed to the download by selecting the tick (67) followed by the arrow button (68).



41. Perform an ignition cycle by switching the vehicle off. Detach MDS equipment then put the vehicle into sleep mode. Return the vehicle to ignition state 5, ensuring that you do not depress the brake pedal, and reconnect the MDS equipment.
42. Select and highlight all items within the context fields (69) and perform a global clear of all DTC's (70).



43. Press the stop start button with the brake pedal depressed and start the engine.

44. Check if any ECM DTC's are stored. If any are stored resolve and clear.

Care point: Allow engine to idle to fully warm in order to check Engine ECM gearbox adaptations. Complete point 40 with doors and windows closed.

45. With air-conditioning (A/C) off leave vehicle in neutral at idle for three minutes.

With A/C on leave vehicle in neutral at idle for three minutes.

With A/C off leave vehicle in drive for three minutes.

With A/C on leave vehicle in drive for three minutes.

46. Check for ECM DTC's. If DTC's are present note them down on the table below and report your findings to your Regional Aftersales Manager.

STORED ECM DTC'S	

Care point: Auto alarm function is to be disabled as in interim measure to alleviate the risk of erroneous sounding of the alarm. Customers should be informed of this adaption.

47. Disable auto alarm function. This option is displayed on the left hand side of the instrument cluster under vehicle settings. Instructions how to perform this procedure can be found on page 112 of the Owner's Manual.

Care point: Switch off mains electricity before removing the battery charger.

48. Disconnect Deutronic battery charger.

49. Perform the following function checks:

HVAC

Record the Motor Range data in the **highlighted** section within HVAC chart 1.

HVAC CHART 1

HVAC SETTINGS	RESULTS
Calibration Attempts	
Motor 1 Range Min	
Motor 1 Range Average	
Motor 1 Range Max	
Motor 1 Range Min Temp	
Motor 1 Range Max Temp	
Motor 2 Range Min	
Motor 2 Range Average	
Motor 2 Range Max	
Motor 2 Range Min Temp	
Motor 2 Range Max Temp	
Motor 3 Range Min	
Motor 3 Range Average	

Motor 3 Range Max	
Motor 3 Range Min Temp	
Motor 3 Range Max Temp	
Motor 4 Range Min	
Motor 4 Range Average	
Motor 4 Range Max	
Motor 4 Range Min Temp	
Motor 4 Range Max Temp	
Motor 5 Range Min	
Motor 5 Range Average	
Motor 5 Range Max	
Motor 5 Range Min Temp	
Motor 5 Range Max Temp	
Motor 1 Range Current	
Motor 2 Range Current	
Motor 3 Range Current	
Motor 4 Range Current	
Motor 5 Range Current	
Motor 1 Range Current _1	
Motor 5 Range Current _1_1	
Motor 2 Range Current _1	
Motor 3 Range Current _1	
Motor 5 Range Current _1	

Compare the Motor Range figures with HVAC chart 2.

HVAC CHART 2

REVIEW VALUES AGAINST THE LISTED UPPER LIMITS	
Motor 1 Range Current	1920
Motor 2 Range Current	1480
Motor 3 Range Current	1440
Motor 4 Range Current	1810
Motor 5 Range Current	2070

If any of the Motor Ranges are above the upper limit values in HVAC Chart 2 complete the full results section on Chart 1 and contact your Regional Aftersales Manager.

AIRBRAKE

- Select Active Button – Depress Aero Button, ensure airbrake deploys to low level position

- Remain in Active mode– Depress and hold aero for approx 10 seconds airbrake should retract slowly

Care point: Airbrake function check has to be performed before checking PCCU function check.

PCCU (ENGINE RUNNING)

Mode Changes:

- Launch mode- Ensure this function can be activated and aborted. **Please note:** This is a static vehicle check. The physical deployment of launch control does not need to be tested. The throttle should not be depressed.
- Handling mode – switch between Normal, Sport and Track, ensure the cluster updates with the correct mode selection and that you hear the suspension pressurise for each mode.
- Powertrain Mode - switch between Normal, Sport and Track, ensure the cluster updates with the correct mode selection, Normal mode will be back lit **green** to Indicate ECO, Sport and Track will not.
- Winter mode- Ensure this function can be selected.

GEARBOX AND IMMOBILISER

- Brake Pedal Depressed – Select “D” wait for 5 seconds, confirm a forward gear is indicated in the cluster window, Select “R” wait for 5 seconds, confirm “R” indicator in cluster window, select “N” wait for 5 seconds, confirm neutral position in cluster window.
- Active Panel selected – depress Manual button and confirm M in cluster window.

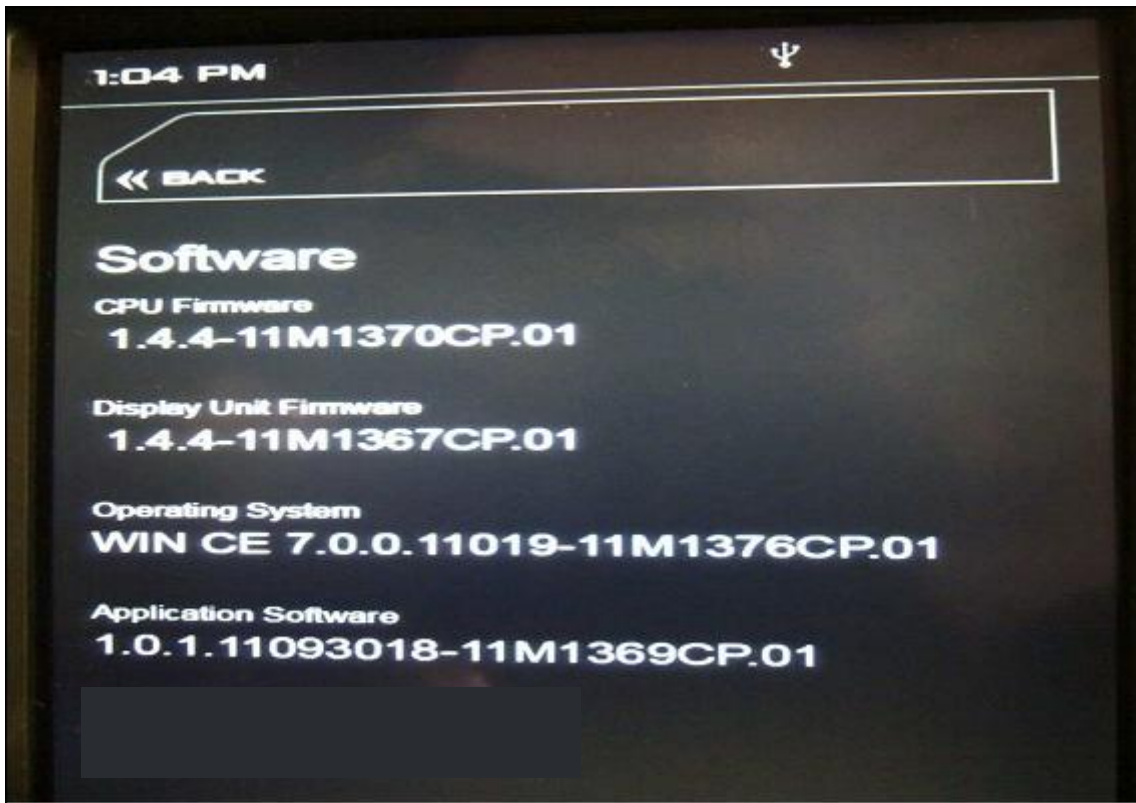
Care point: I-pod/I-phone will be required to fully complete the IRIS/Head Unit checks.

IRIS/ HEAD UNIT

Follow the instructions outlined in the following table.	Test Description	Execution Steps	Expected Result
1	Switch on unit	Vehicle IGN state 5 (via "start" button)	McLaren image followed by standby screen (time in top right corner) or home screen (with icons) depending on last mode.
2	Switch on unit, if unit is in stand by screen	Press the Home button on the Head unit	Home screen (with icons) displayed
3	Check if latest IRIS/ Head Unit SW versions are loaded (See following images)	Press the Setting Button on the Home screen Select About and then Software	- Compare all versions which are displayed with screen image or list given. - If not, flash firmware via production tester, application software via given USB flash drive - Repeat this step to verify all versions are ok
4	USB and iPod connectivity	- Press the Home button on the Head unit - Connect iPod / device with music to USB port to connector unit in storage compartment - Press the Media Button on the Home screen	- Indexing symbol displayed in status line after inserting the iPod / device - Wait until device Name is displayed in Media screen then select the device name - If iPod was playing last time, music will continue to play on the speakers

5	To verify the touch screen response	- Select the device on the source selection screen (if iPod was not in play mode before) - If iPod was in play mode select Browse icon in the now playing screen - Select Songs Button from the list - Flick song list up and down on the touch screen	Song list is displayed and moving with the flicking up and down
6	To verify upper Hard Keys	- Press left upper Hard Key - Press right upper Hard Key	Song list is moving up and down
7	To verify audio play back	Select any song from the song list	Now playing screen displayed and track time is progressing
8	To verify whether Volume Changes	Change Volume Up and Down - Turn the ring Encoder in both the directions and set it to 65	- Volume changes should be observed on the speakers without any distortion. - Music should Play on the speakers without any distortion.
9	To verify lower right Hard key/Mute.	- Press the Lower Right Hard Key (showing Mute Symbol) - Press the same key to un-mute again	- Verify the Audio gets Mute - Verify the Audio gets un-mute.
10	To verify lower left Hard key/Mute.	- Press the Lower left Hard Key (arrow symbol pointing upwards) - Press Radio in MCC	- Verify the MCC window pops up. - Verify the source switched to Radio from Media and Radio
11	To verify radio antenna connection	Press search to go to a known station with reception	Verify audio from this station observed on the speakers
12	To verify the Centre Hard key	- Press the Home button on the Head unit. - Press the Media Button on the Home screen	- Verify the Head unit is back to Home screen. - Verify the Now Playing screen is displayed
13	Remove iPod/device and cable from USB port/car	Unplug cable from USB port	Verify display show source selection screen shows No Source Available
14	Set the unit to default state	Press the Home button on the Head unit	Home screen (with icons) displayed

Software Numbers Ref Point 3 in IRIS Table:



Hardware numbers ref point 3 in IRIS table:

GERNERAL CHECKS

- Check electronic key locks and unlocks the vehicle at a range of just over 3 meters.
- Check that it is possible to open and close the side doors with the emergency release cables.
- Check vehicle powers down correctly by ensuring the instrument cluster and Electronic Park Brake is no longer illuminated after 60 seconds. The stop/start button should not be illuminated and the lock button on the centre console should flash.
- Check the IRIS/ Head Unit is not awake. If the unit remains awake remove fuse 26 as outlined in point 28-30 and the system will shut down. If the fuse did have to be removed make a note of the occurrence with as much relevant detail as possible.
- If fitted check memory seat function is operational. (If not use MDS and enter the Diagnostic Toolbox and access the Seat Control Module (SCM). Access Sequences section and carry out Seat Calibration procedure.
- Check side windows are calibrated and one touch is operational (If not use MDS and enter the Diagnostic Toolbox and access the Door Module. Access the Sequences section and carry out window calibration.
- Check time and date are correct. (Set correct time and date if not).

50. Log results on Function check table:

FUNCTION CHECK TABLE

ITEM	PASSED FUNCTION CHECK	COMMENTS IF FAILED
PCCU	Yes / No	
Airbrake	Yes / No	
Gearbox/Immobiliser	Yes / No	
IRIS/Head Unit	Yes / No	
General Checks	Yes / No	

QUIESCENT BATTERY DRAIN TEST

Care point: Ensure headlights are set to manual off. Please refer to page 41 of the Owners Manual.

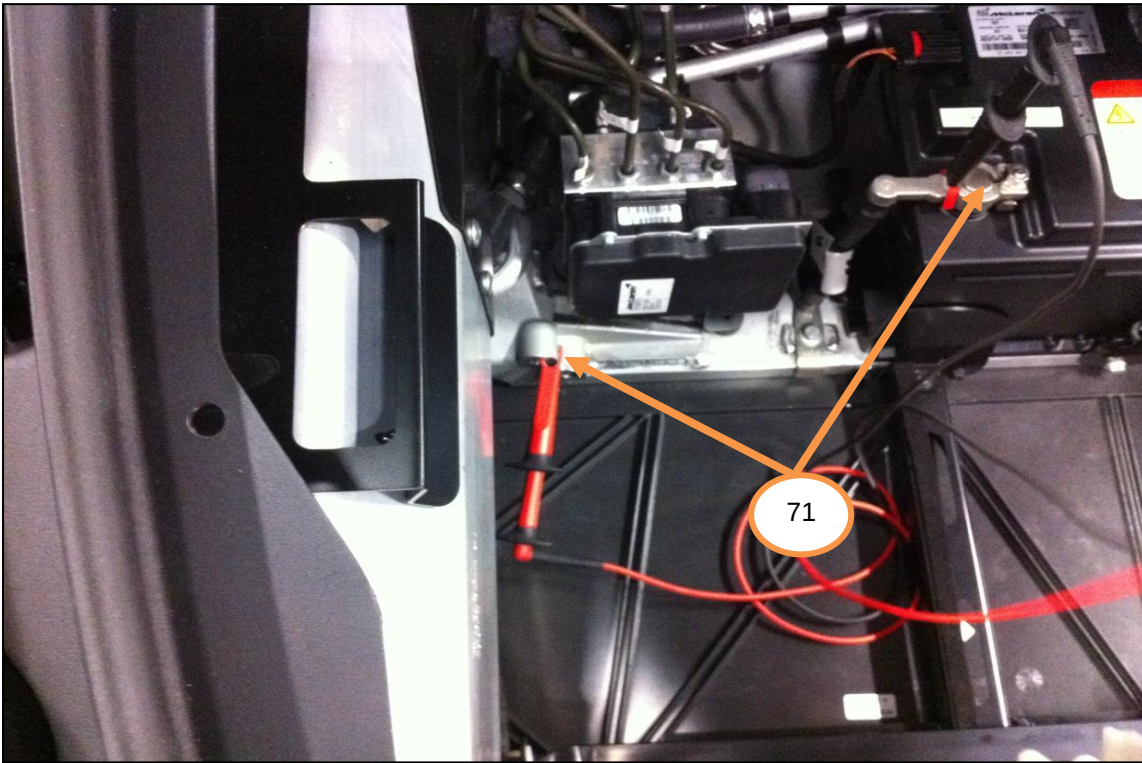
Care point: Ensure courtesy light are switched off. Please refer to page 110 and 147.

Care point: Remove and install negative battery terminal in-between checking the unlocked and asleep and locked and asleep modes. Locking and locking the vehicle with the multi meter attached can cause the fuse within the device to blow.

Care point: If the clip of the multi meter slips off a terminal repeat entire function checks again.

51. Quiescent battery drain test will need to be checked when the vehicle is **unlocked and asleep** and **locked and asleep**.

52. Attach multi meter as shown (71).



53. Detach negative battery terminal (72)



54. Read multi-meter display (73). If the value is consistently over 50 mA contact your Regional Aftersales Manager.



55. Record the mA output for both quiescent battery drain tests on the chart below:

Vehicle unlocked and asleep/ mA	Vehicle locked and asleep/ mA

INSTALLATION :

56. Install components in reverse order.

Please Contact your Regional Aftersales Manager if you have any queries relating to the information contained within this bulletin.

57. Finally record the following information:

- VIN Number: _____
- Registration Number: _____
- Mileage: _____

Signed _____

Date _____

WARRANTY INFORMATION

DESCRIPTION	RESOLUTION CODE	TOTAL REPAIR TIME
Update software platform	E0F101J6A33A4A01	3.0

PARTS INFORMATION

PART DESCRIPTION	PART NUMBER	QUANTITY	ORDER PROCESS
N/A	N/A	N/A	N/A

The USB drive (11M1369CP) will be supplied directly from the McLaren Technology Centre at no charge to the dealer.

KEY
Affected by 11 M 012 IRIS "reception and operational stability issues bulletin".