



## Technical Bulletin 235 12.2023

### Contents

<b>Item</b>	<b>Subject</b>	<b>Model Affected</b>
235.1	Calibration Downloading	Speed 400, Scrambler 400 X
235.2	Replacement Engine ECM Setup	Speed 400, Scrambler 400 X
235.3	Replacement ABS Modulator Setup	Speed 400, Scrambler 400 X
235.4	Replacement Instrument Setup	Speed 400, Scrambler 400 X
235.5	Replacement Immobiliser and Lock Set Setup	Speed 400, Scrambler 400 X

**Item:** 235.1  
**Description:** Calibration Downloading  
**Model Affected:** Speed 400, Scrambler 400 X

## WARNING

Always ensure that the correct motorcycle model name is identified and displayed before starting a calibration download.  
Downloading calibrations for an incorrect model may cause motorcycle electronic systems to function incorrectly.  
This can cause an unsafe riding condition which could lead to an accident resulting in injury or death.

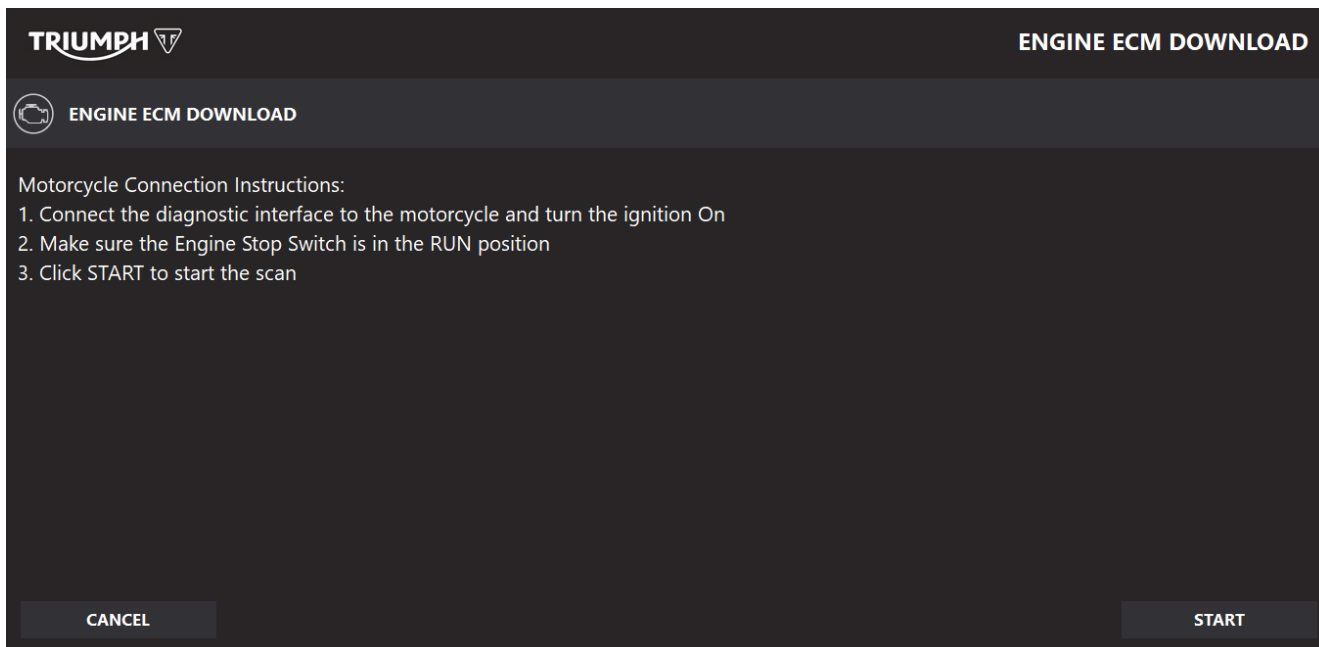
## NOTICE

Always ensure that the correct motorcycle market variant is identified and displayed before starting a calibration download.  
Downloading calibrations for an incorrect market variant may cause motorcycle electrical or electronic systems to function incorrectly for your region.

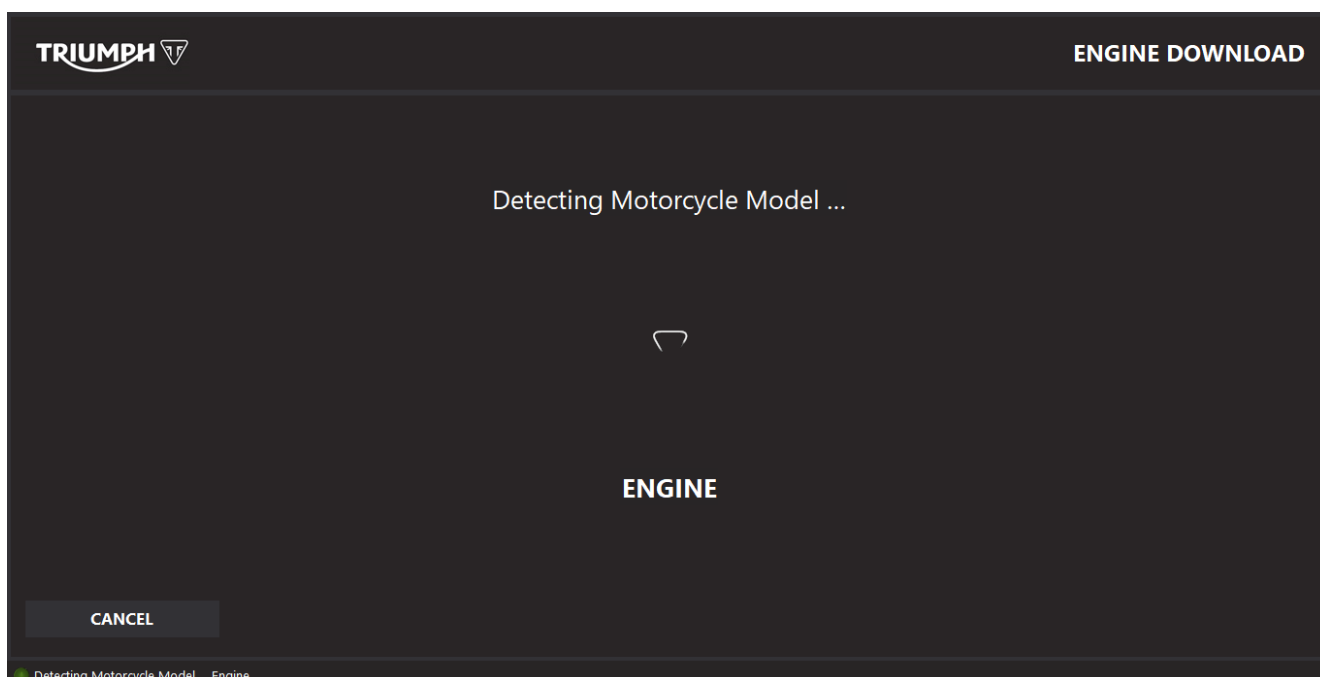
## NOTICE

The following calibration download workflow applies to all ECMs on the above models.

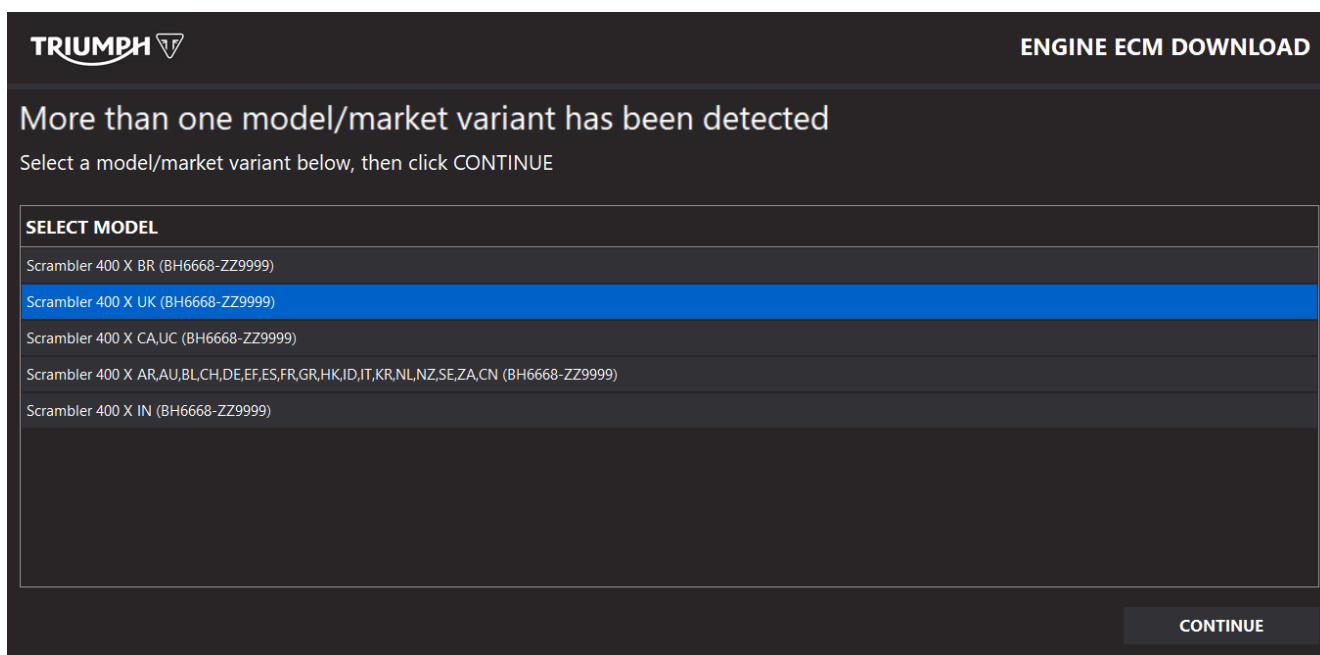
1. From the Triumph Diagnostic Tool Main Menu, navigate to **Download**, then select the required ECM type.
  - Engine ECM.
  - Instruments
  - Immobiliser/Keyless ECM
2. Follow the motorcycle connection instructions and click **Start** to begin.



3. Upon clicking Start, the diagnostic tool will scan the motorcycle to detect the model and market variant.



4. If the scan is unable to identify an individual model and market variant, A list of potential model and market variants will be displayed.
5. Select the correct model and market variant and click **Continue** to progress to the model confirmation screen.



6. If the scan successfully detects an individual model and market variant, the model confirmation screen is displayed.
7. This screen will show the Model Name, Market Variant and VIN detected along with a list of applicable markets.

### Scrambler 400 X

MARKET VARIANT: UK

VIN: MD2B41MX3PNB00016

Click CONTINUE to view the status report for this model, or click SELECT to choose an alternative model

#### APPLICABLE MARKETS GUIDE

United Kingdom

SELECT

CONTINUE

- Check the model name and market variant details displayed are correct for your model and region.

## NOTICE

For Speed 400 and Scrambler 400 X models, If an incorrect model name is identified and displayed following the scan, the most likely cause is incorrect ABS Variant Coding.

If an incorrect model name is displayed, cancel the download and navigate to ABS Diagnostics. Check that the correct model name is selected for ABS variant coding and adjust as necessary before restarting the download process. See Replacement ABS Modulator Setup, page 11.

- If the market variant displayed is not correct, click **Select** to choose an alternative market variant from the list provided.

### Alternative motorcycle models compatible with the model detected

Select a model/market variant below, then click CONTINUE

#### SELECT MODEL

Scrambler 400 X BR (BH6668-ZZ9999)

Scrambler 400 X UK (BH6668-ZZ9999)

Scrambler 400 X CA,UC (BH6668-ZZ9999)

Scrambler 400 X AR,AU,BL,CH,DE,EF,ES,FR,GR,HK,ID,IT,KR,NL,NZ,SE,ZA,CN (BH6668-ZZ9999)

Scrambler 400 X IN (BH6668-ZZ9999)

CONTINUE

10. Select the correct model and market variant from the list and click **Continue** to confirm your selection.
11. When the model and market variant displayed in the model confirmation screen are correct, click **Continue** to progress to the ECM Status Summary screen.
12. The ECM Status Summary screen will display the details of the calibration that will be downloaded for the model and market variant selected. A summary is also displayed indicating if update is required or not.
  - If the ECM is up to date, the ECM Status Summary panel will be green and the message **Update Not Required** will be displayed.
  - If an update is available, the ECM Status Summary panel will be red and the message **Update Required** will be displayed.

**TRIUMPH** **ENGINE ECM DOWNLOAD**

Scrambler 400 X  
 MARKET VARIANT: UK  
 VIN: MD2B41MX3PNB00016

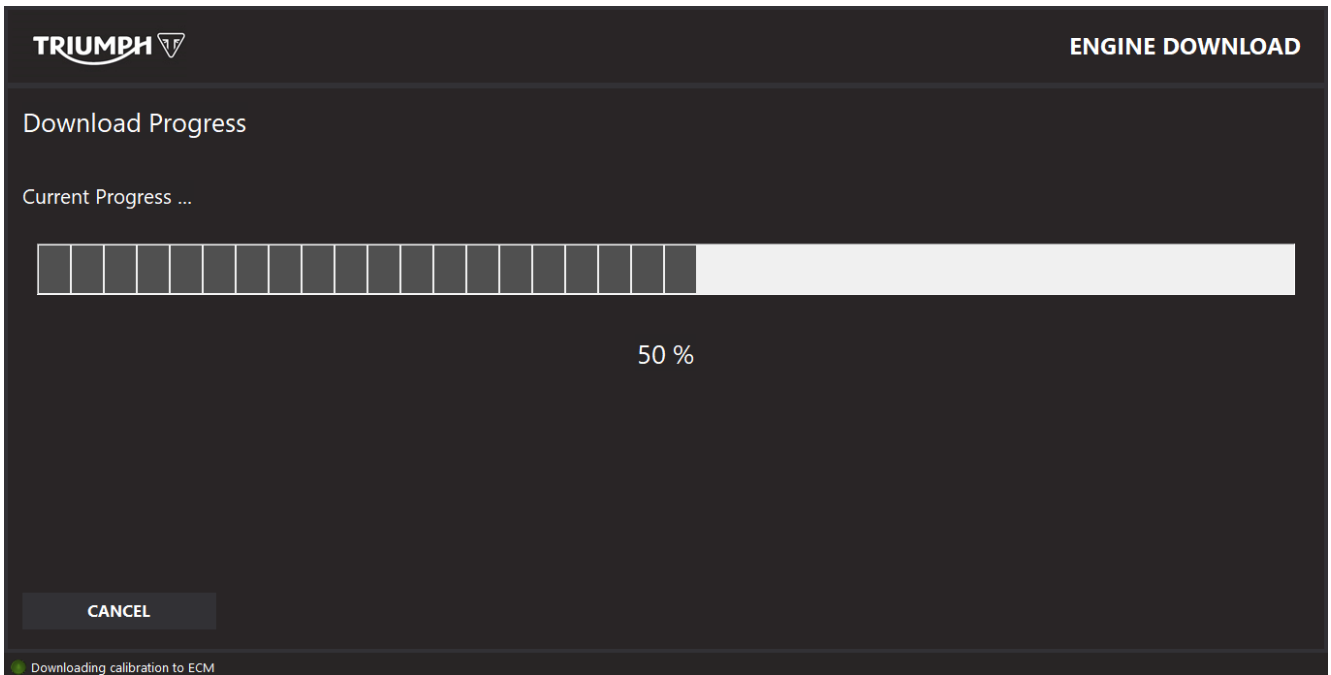
**ECM STATUS SUMMARY: UPDATE REQUIRED**

ENGINE ECM			
Description	Current Value	Expected Value	Action
Application Flash-File Name	TA351401041202	TA351401051203	Update Available
Calibration Number	TA351401	TA351401	No Action Required
Build Number	04	05	Update Available

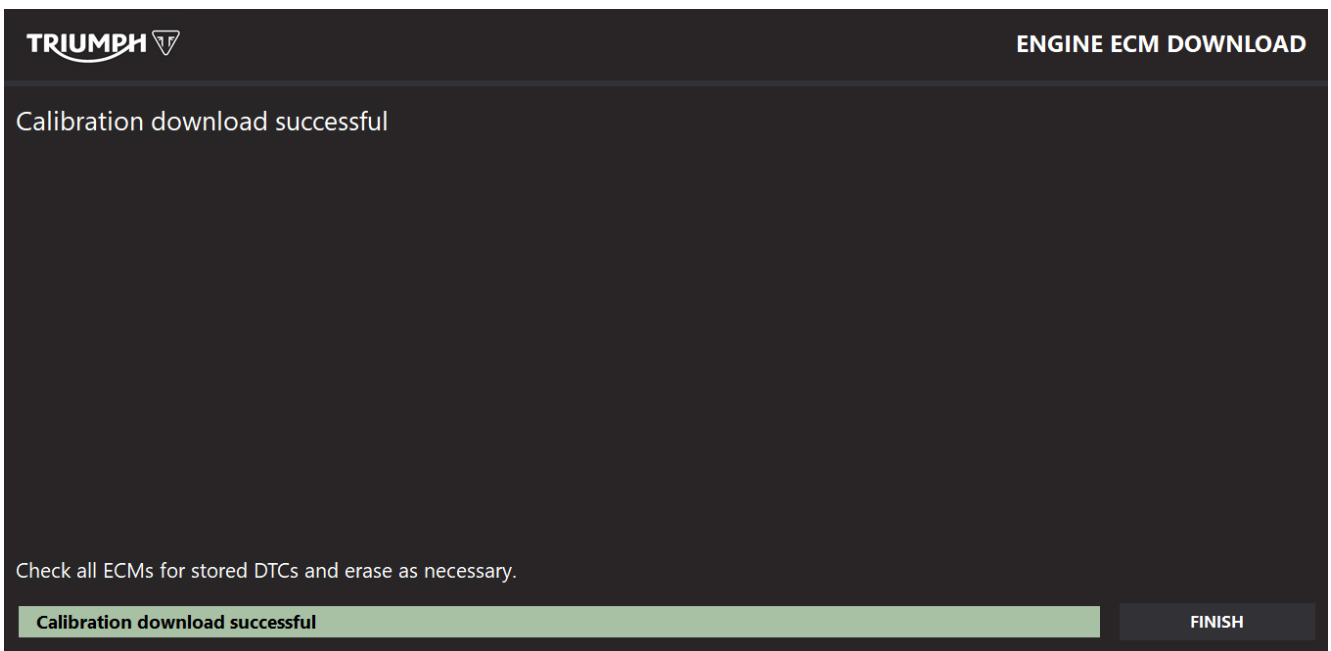
The ENGINE calibration is out of date. Press Start to reprogram the ENGINE calibration.

**CANCEL** **START**

13. Double check that the model name and market variant details are correct, then:
  - Click **Start** to start the download, or;
  - Click **Cancel** to return to Download menu if the details are incorrect, or the if calibration is already up to date.
14. After clicking Start, the Download Progress screen will be displayed showing the progress of the download.



15. When the download has completed successfully, the following screen will appear.



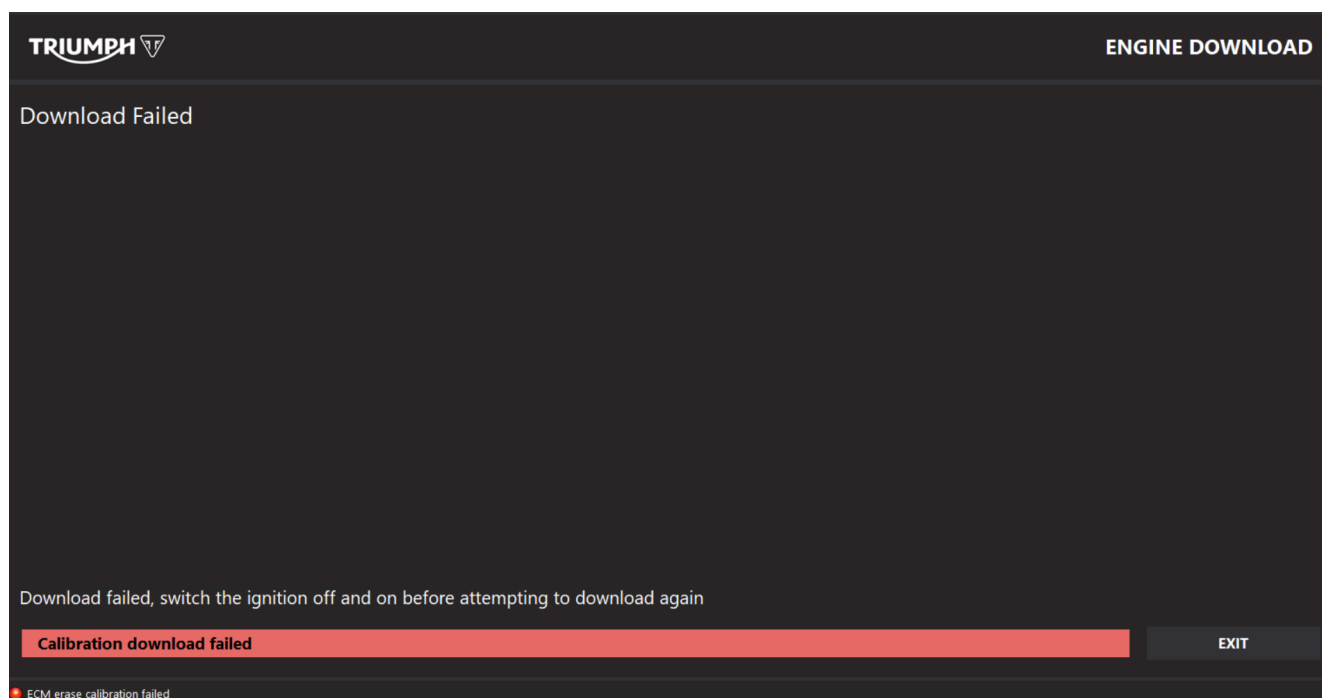
16. Click **Finish** to complete the download.

17. Check all motorcycle ECMs for stored DTCs and erase as necessary.

---

## Download Failure and Failed Download Recovery

1. If a download failure occurs, the following screen will be displayed.



2. Before attempting to restart the download:
  - Turn the motorcycle ignition Off for at least 60 seconds, then turn the ignition On.
  - Make sure all other motorcycle ECMs are up to date and have the correct calibration installed for the model and market variant.
3. Follow the process above to restart the download.

### NOTICE

The motorcycle scan process will attempt to identify the connected motorcycle from data obtained from other ECMs. However, it may not be possible to identify the exact model and market variant. If the exact model or market variant is not identified, select the correct model and market variant from the list provided.

4. Make sure the ECM Status Summary screen displays the correct model name and market variant information before starting the download.

**Item:** 235.2  
**Description:** Replacement Engine ECM Setup  
**Model Affected:** Speed 400, Scrambler 400 X

We would like to advise dealers that a specific electronic set up process is required when fitting a replacement Engine ECM to the above models in service.

After installing a replacement Engine ECM, the following actions must be performed:

1. Connect the Triumph Diagnostic Tool to the motorcycle and turn the ignition ON.
2. Make sure the engine stop switch is in the RUN position.
3. Write the motorcycle Vehicle Identification Number (VIN) to the Engine ECM.

## NOTICE

Writing the VIN to the Engine ECM is a one time only function that is only available for set up of replacement ECMs. Once a VIN has been written to the Engine ECM, it is not possible to write the VIN again. Care must be taken to enter the VIN details correctly when writing the VIN. If the VIN is written incorrectly, the motorcycle will not start and another replacement Engine ECM will have to be ordered.

The VIN being written to the Engine ECM must match the VIN engraved on the motorcycle frame.

- Navigate to **Diagnostics** -> **Engine ECM** -> **Adjust**.
- Select Write VIN from the menu and click **Start**.
- Enter the 17 digit VIN exactly as it appears on your motorcycle's frame.
- Check the VIN entered is correct.
- Click the **Write** button to write the VIN to the ECM.
- Click **Finish** when VIN writing is complete.

The screenshot shows the Triumph Diagnostic Tool interface. At the top, the Triumph logo is on the left and 'ENGINE DIAGNOSTICS' is on the right. Below the logo is a navigation bar with icons for 'Build Data', 'Read DTCs', 'Live Data', 'Function Test', and 'Adjust'. A 'Main Menu' icon is in the top right corner. The main area is titled 'ADJUST' and contains a list of options: 'Adjust', 'Reset Engine Adaptions', 'Learn Neutral Gear Position', 'Write VIN', and 'ECM coding'. The 'Write VIN' option is selected. The 'Write VIN' screen displays the instruction 'Please enter the 17 digit VIN in UPPER CASE' and 'VIN :'. There are two input fields: 'Enter VIN' with the value 'MD2B41MX3PNB00016' and 'Confirm VIN' with the value 'MD2B41MX3PNB00016'. Below the input fields are 'Finish' and 'Write' buttons. A green status indicator at the bottom indicates 'VIN data for writing is correct'.

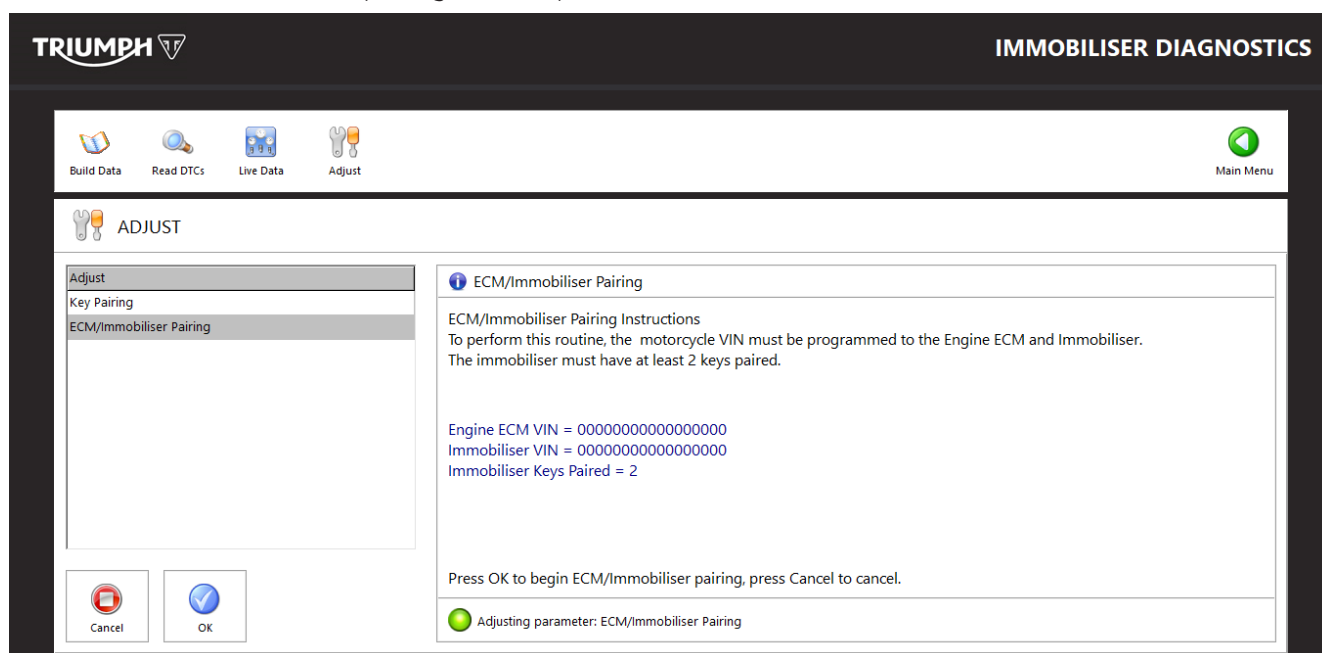
4. Download the correct Engine ECM calibration for your model and market variant.
  - See Calibration Downloading, page 2.

5. Pair the Engine ECM and Immobiliser.

## NOTICE

Before pairing, the Engine ECM and Immobiliser must both have the correct motorcycle VIN stored. The Immobiliser must also have two keys paired.

- Navigate to **Diagnostics** -> **Immobiliser/Keyless ECM** -> **Adjust**.
- Select ECM/Immobiliser Pairing from the menu and click **Start**.
- Make sure the Engine ECM and Immobiliser both have the correct VIN stored.
- Make sure the Immobiliser has two keys paired.
- Click **Ok** to pair the Engine ECM and Immobiliser.
- Click **Finish** when the pairing has completed.



6. Turn the ignition Off and wait for at least 30 seconds.
7. Turn the ignition ON.
8. Check all motorcycle ECMs for stored DTCs and erase as necessary.
9. Learn neutral gear position.

## DANGER

Never start the engine or run the engine in a confined area.  
Always operate the motorcycle in the open air or in an area with adequate ventilation.  
Exhaust fumes are poisonous and will cause loss of consciousness and death within a short period of time.

## NOTICE

To learn the Neutral gear position, the transmission must be in Neutral, The engine must be running at idle speed, and the clutch lever must be released before clicking Start.

Failure to learn the Neutral gear position correctly can cause incorrect gear position detection.

- Navigate to **Diagnostics** -> **Engine ECM** -> **Adjust**.
- Select Learn Neutral Gear Position from the menu.
- Follow the on screen instructions.
- Click **Start** to learn the neutral position.
- Click **Finish** when neutral gear position learning is complete.



 ADJUST

- Adjust
- Reset Engine Adaptions
- Learn Neutral Gear Position
- Write VIN
- ECM coding



**Learn Neutral Gear Position**

Make sure the transmission is in Neutral

Start the engine and allow it to run at idle RPM. Make sure the clutch lever is released

Click Start to learn the neutral position

 Showing list of function tests

10. Adapt the engine management system.

 **DANGER**

Never start the engine or run the engine in a confined area.  
 Always operate the motorcycle in the open air or in an area with adequate ventilation.  
 Exhaust fumes are poisonous and will cause loss of consciousness and death within a short period of time.

**NOTICE**

Adapting the motorcycle while connected to an exhaust extraction system may cause incorrect values to be set, causing poor engine running.  
 Always adapt the motorcycle with the engine disconnected from any exhaust extraction system but make sure the motorcycle is positioned in a well ventilated area.

**NOTICE**

To ensure correct engine adaption, make sure that the engine is left to run at idle speed for the duration of the process.  
 Do not rev the engine, operate the clutch lever or operate gear change lever during the adaption process.  
 Failure to observe the above can cause incorrect engine adaption and poor running.

- Start the engine and allow it to run at idle speed.
- Do not rev the engine, operate the clutch lever or operate gear change lever while the engine is warming up.
- Allow the engine to warm up until the cooling fan turns on.
- Wait for the cooling fan to turn off, then turn the ignition Off.

---

**Item:** 235.3  
**Description:** Replacement ABS Modulator Setup  
**Model Affected:** Speed 400, Scrambler 400 X

We would like to advise dealers that a specific electronic set up process is required when fitting a replacement ABS Modulator to the above models in service.

After installing a replacement ABS Modulator, the ABS Variant Code must be programmed using the Triumph Diagnostic Tool:

### **WARNING**

Always make sure that the correct motorcycle model name is selected when setting the ABS Variant Code. Setting the ABS Variant Code to an incorrect motorcycle model can cause an unsafe riding condition which could lead to an accident resulting in injury or death.

### **WARNING**

Always make sure that the correct motorcycle model name is selected when setting the ABS Variant Code. The Triumph Diagnostic Tool uses ABS Variant coding data to identify the motorcycle model when performing pre download model identification scans for the Engine ECM, Instruments and Immobiliser. Setting the ABS Variant Code to an incorrect motorcycle model can cause the diagnostic tool to incorrectly identify the motorcycle model when performing pre download model identification scans. This can lead to download of incorrect calibrations for your model. Operating a motorcycle with incorrect ABS variant coding and incorrect calibrations installed can cause an unsafe riding condition which could lead to an accident resulting in injury or death.

### **NOTICE**

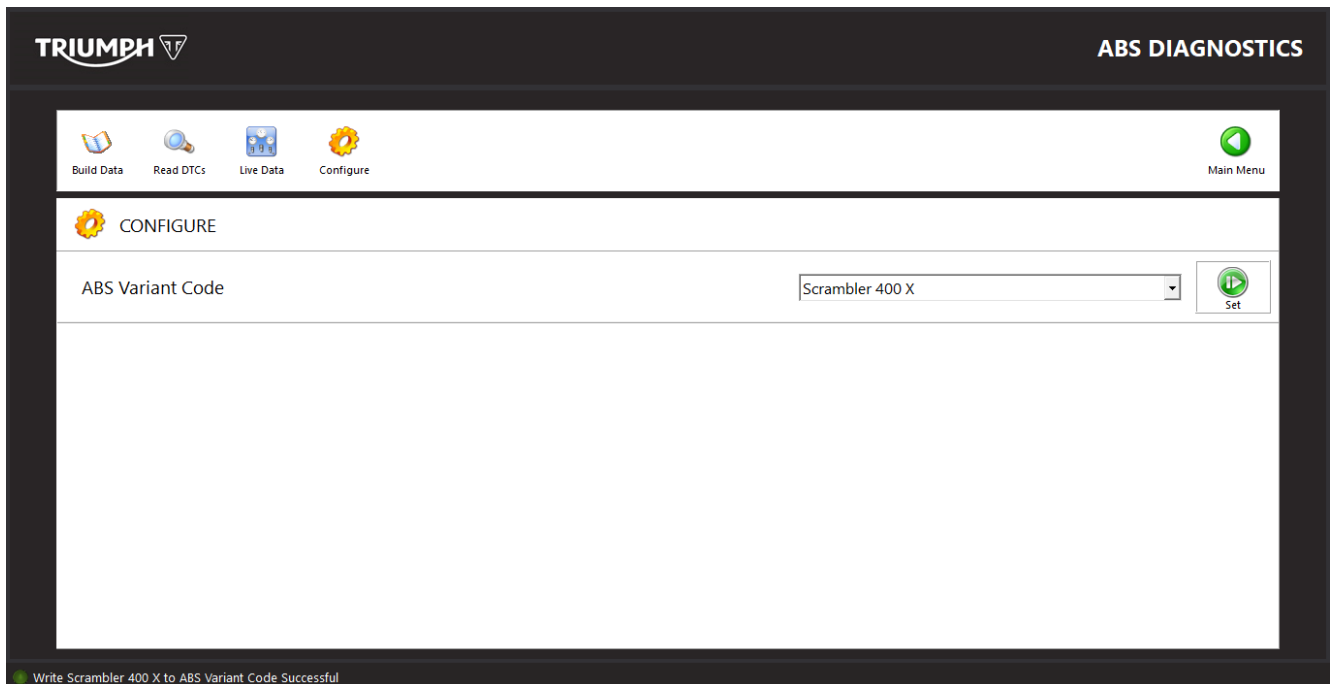
ABS Variant Code Programming is only required when installing a replacement ABS modulator. The ABS Variant Code should not be reset or adjusted during normal motorcycle service.

1. Connect the Triumph Diagnostic Tool to the motorcycle and turn the ignition ON.
2. Make sure the engine stop switch is in the RUN position.
3. Navigate to **Diagnostics** -> **ABS** -> **Configure**.

- 
4. Set the ABS Variant Coding.
    - From the ABS Variant Code panel, use the pull down menu to select your motorcycle model.

**Note:**

- Check that you have selected the correct motorcycle model before clicking **Set**.



5. Click the **Set** button to confirm your motorcycle model selection and program the ABS Variant Code.
6. Turn the ignition Off and wait for at least 30 seconds.
7. Turn the ignition On.
8. Check all motorcycle ECMs for stored DTCs and erase as necessary.

**Item:** 235.4  
**Description:** Replacement Instrument Setup  
**Model Affected:** Speed 400, Scrambler 400 X

We would like to advise dealers that a specific electronic set up process is required when fitting replacement Instruments to the above models in service.

## NOTICE

Before installing replacement instruments, note the motorcycle's existing Odometer mileage and Distance to Next Service values so that these can be programmed to the replacement part.

After installing replacement Instruments, the following actions must be performed:

1. Connect the Triumph Diagnostic Tool and turn the ignition ON.
2. Make sure the engine stop switch is in the RUN position.
3. Download the correct Instruments calibration for your model and market variant.
  - See Calibration Downloading, page 2.
4. Check all motorcycle ECMs for stored DTCs and erase as necessary.
5. Program the motorcycle's existing odometer mileage to the instruments.
  - Navigate to **Diagnostics** -> **Instruments** -> **Odometer**.
  - Click **Adjust**.
  - In the Set Odometer panel, enter the motorcycle's existing mileage value.
  - Click **Set** to program the value to the instruments.

**TRIUMPH** INSTRUMENT DIAGNOSTICS

Build Data Read DTCs Live Data Service Odometer Configure Main Menu

**ODOMETER**

Please select the units of distance for odometer setting Miles

Current Odometer Reading 64 Miles Adjust

! This operation can only be performed once and cannot be undone. Check the new value is correct before proceeding.

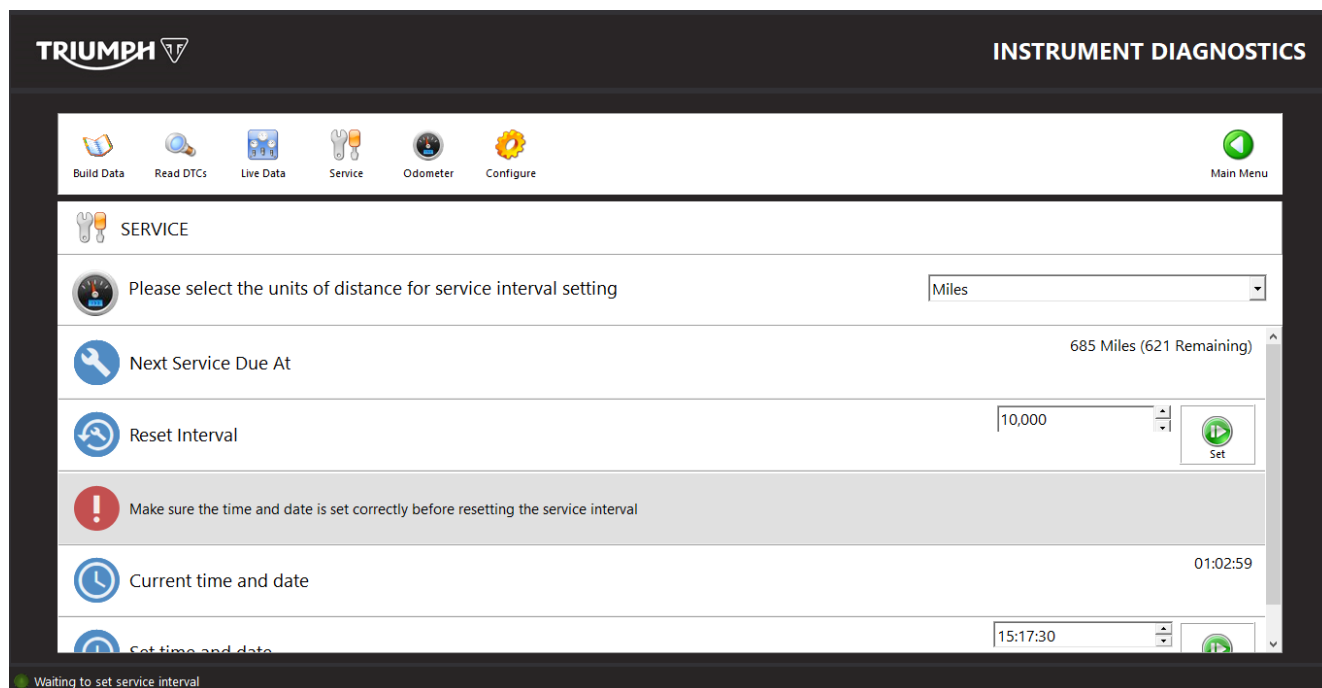
Set Odometer 0 Miles Set

Set - enter an existing odometer value to a new odometer. Value must be greater than current odometer value.

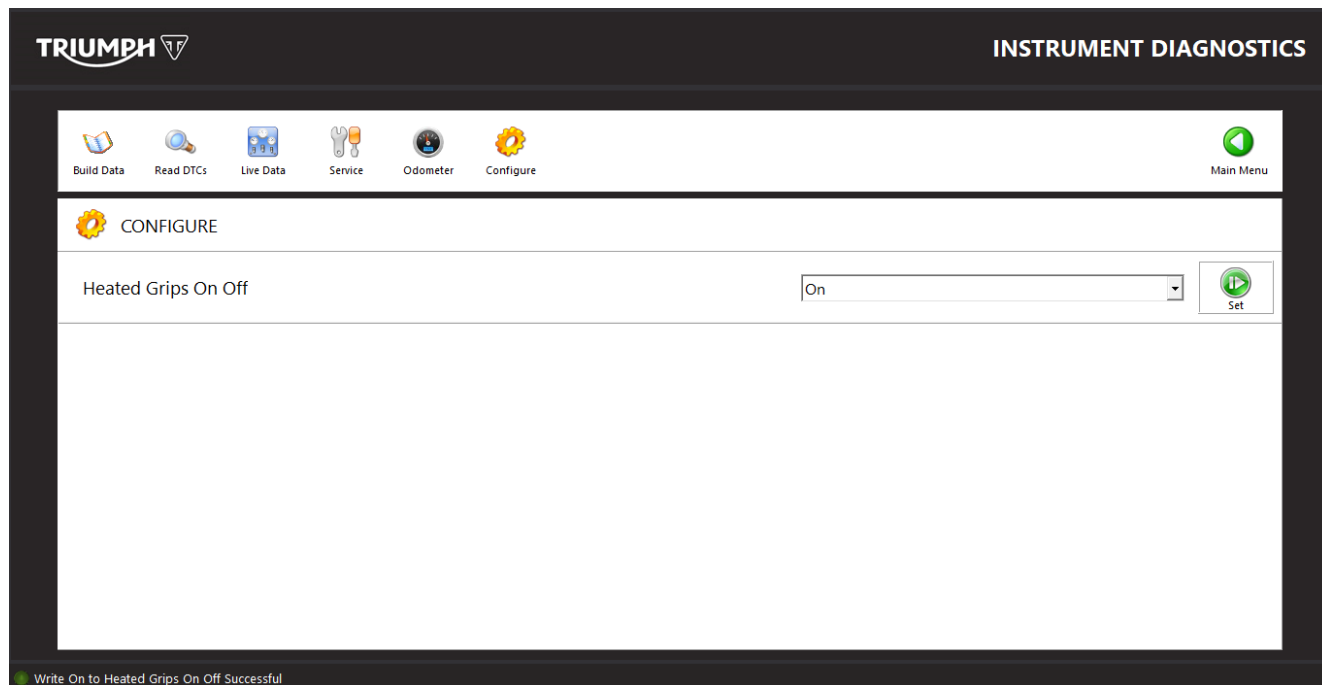
Reset Odometer Reset

Waiting to set odometer

6. Program the motorcycle's existing distance to next service value to the instruments.
  - Navigate to the **Service** screen.
  - Use the Reset Interval function to set the distance to next service.



7. Check if accessory heated grips are fitted. If fitted, enable the heated grips as follows:
  - Navigate to the **Configure** screen.
  - From the Heated Grips On Off panel, use the pull down menu and select **On**.
  - Click **Set** to store the setting.



---

**Item:** 235.5  
**Description:** Replacement Immobiliser and Lock Set Setup  
**Model Affected:** Speed 400, Scrambler 400 X

We would like to advise dealers that a specific electronic set up process is required when fitting a replacement Immobiliser and Lock Set to the above models in service.

## NOTICE

Replacement immobiliser and lock sets are supplied as a complete kit for the above models. The kit includes an ignition barrel and two ignition keys, an immobiliser control module.

All of the parts supplied in the kit must be installed on the motorcycle when either the lock set components or the immobiliser control module need to be replaced.

The ignition keys provided in the kit are supplied pre paired to the immobiliser control module. Key pairing is therefore not required as part of the replacement immobiliser setup process.

After installing a replacement Immobiliser and lock set, the following actions must be performed:

1. Connect the Triumph Diagnostic Tool and turn the ignition ON.
2. Make sure the engine stop switch is in the RUN position.
3. Download the correct Immobiliser calibration for your model and market variant.
  - See Calibration Downloading, page 2.

4. Write the motorcycle VIN to the Immobiliser.

## NOTICE

Writing the VIN to the Immobiliser is a one time only function that is only available for set up of replacement parts. Once a VIN has been written to the immobiliser, it will not be possible to write the VIN again.

Care must be taken to enter the VIN details correctly when writing the VIN. If the VIN is written incorrectly, the motorcycle will not start and another replacement Immobiliser/Lock Set kit will have to be ordered.

The VIN being written to the Immobiliser must match the VIN engraved on the motorcycle frame.

- Navigate to **Diagnostics** -> **Immobiliser/Keyless ECM** -> **Adjust**.
- Select Write VIN from the menu and click Start.
- Enter the 17 digit VIN exactly as it appears on your motorcycle's frame.
- Check the VIN entered is correct.
- Click the **Write** button to write the VIN to the Immobiliser.
- Click **Finish** when VIN writing is complete.

The screenshot displays the Triumph Diagnostic Tool interface for 'IMMOBILISER DIAGNOSTICS'. The top navigation bar includes 'Build Data', 'Read DTCs', 'Live Data', 'Adjust', and 'Main Menu'. The 'ADJUST' menu is open, showing options for 'Adjust', 'Key Pairing', 'ECM/Immobiliser Pairing', and 'Write VIN'. The 'Write VIN' screen prompts the user to enter a 17-digit VIN in uppercase. The current VIN is 'MD2B41MX3PNB00016'. There are 'Finish' and 'Write' buttons at the bottom. A status message at the bottom indicates 'VIN data for writing is correct'.

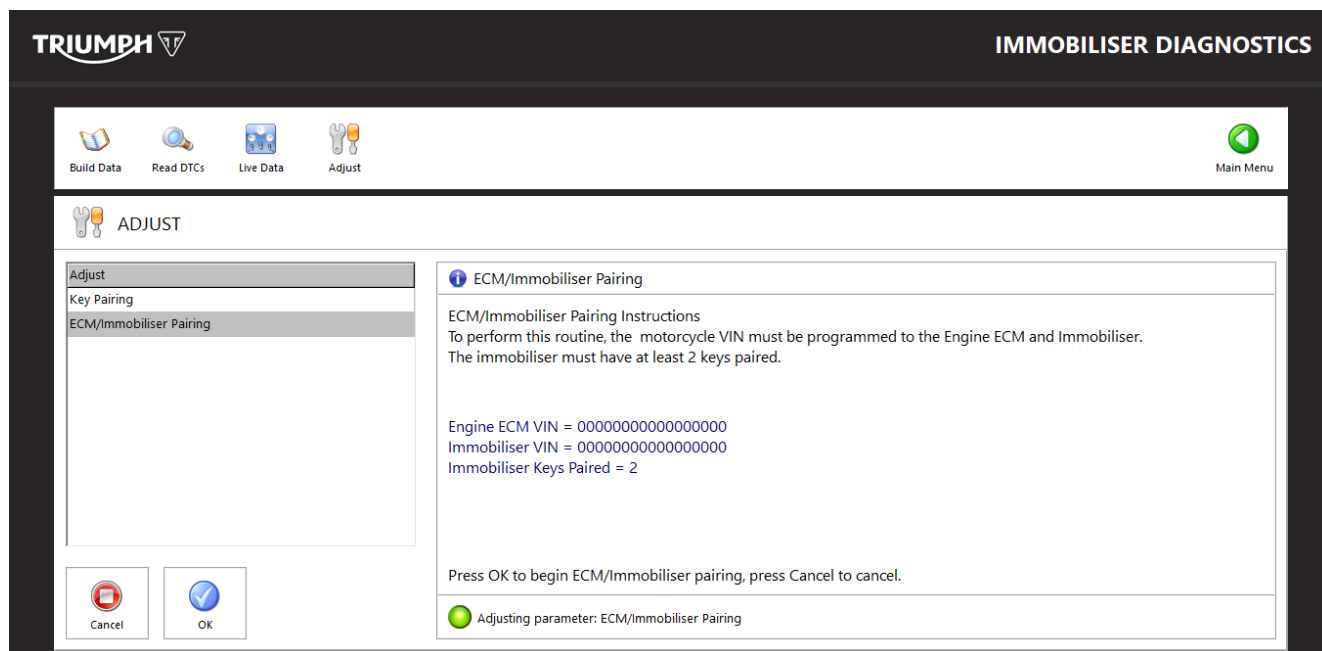
Field	Value
Enter VIN	MD2B41MX3PNB00016
Confirm VIN	MD2B41MX3PNB00016

5. Pair the Engine ECM and Immobiliser.

## NOTICE

Before pairing, the Engine ECM and Immobiliser must both have the correct motorcycle VIN stored. The Immobiliser must also have two keys paired.

- From the Adjust menu, select ECM/Immobiliser Pairing and click **Start**.
- Make sure the Engine ECM and Immobiliser both have the correct VIN stored.
- Make sure the Immobiliser has two keys paired.
- Click **Ok** to pair the Engine ECM and Immobiliser.
- Click **Finish** when the pairing has completed.



6. Turn the ignition Off and wait for at least 30 seconds.
7. Turn the ignition ON.
8. Check all motorcycle ECMs for stored DTCs and erase as necessary.

## DANGER

Never start the engine or run the engine in a confined area.  
Always operate the motorcycle in the open air or in an area with adequate ventilation.  
Exhaust fumes are poisonous and will cause loss of consciousness and death within a short period of time.

9. Check that the engine can be started with both ignition keys.

## NOTICE

The Immobiliser/Keyless ECM Diagnostics Live Data area also provides information to verify the Number of Keys Learned, the Engine Starting Permitted Status and Key Transponder Authentication Status.