

Bowmonk Connected User Guide – Release 3.0

(Released February 2021)

Bowmonk strongly recommend you read this guide completely before attempting to install, upgrade, or use ‘Bowmonk Connected’ for the first time.

Section 1 - Getting started with Bowmonk Connected

1.1 Overview

‘Bowmonk Connected’ is the name given to Bowmonk’s range of electronic decelerometers that are suitable for use with the ‘Connected MOT’ facility of the DVSA’s MOT Test system (known as ‘MTS’).

The MTS now has the ability to automatically accept results from the items of garage equipment used to perform an MOT test, for example decelerometers, rolling road brake testers or emissions analysers, etc.

Bowmonk decelerometers are hand-held and portable so some manual actions are still required.

These devices communicate directly with the MTS over your site’s existing internet connection when performing an MOT test. This actually speeds up the process of performing an MOT test.

Bowmonk periodically update ‘Bowmonk Connected’, so before installing and using Bowmonk Connected, please visit www.bowmonk.com/mts and check you are using the latest Release version available.

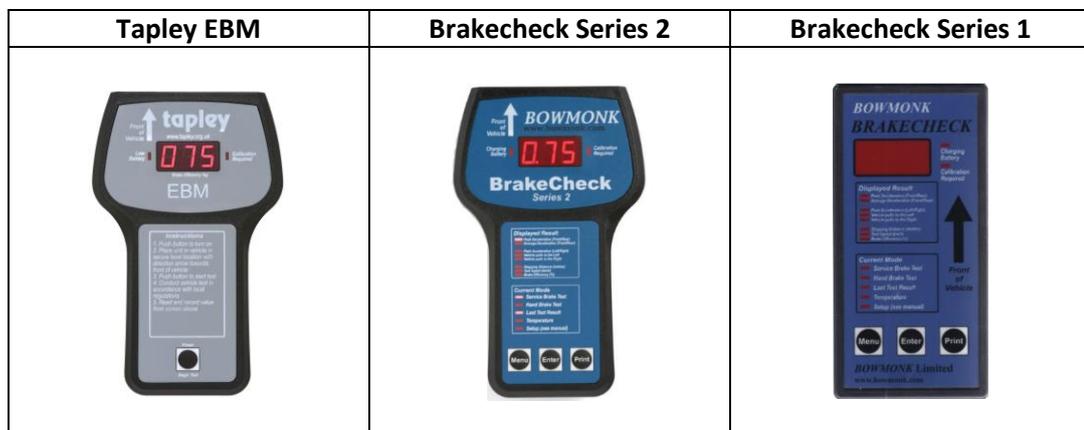
Please Note: This guide is for the ‘Release 3.0’ version of Bowmonk Connected, which was released in February 2021.

There are two parts to ‘Bowmonk Connected’.

- The portable decelerometer device itself (Including any supplied cable).
- A software program running on at least one computer at the Vehicle Testing Station (VTS).

The software program is *only* for use with Bowmonk Connected compatible decelerometers.

Please see the pictures below to identify the type of equipment you have.



User Manuals for the Tapley EBM and Brakecheck decelerometers shown above are provided with the Bowmonk Connected download from the Bowmonk website (See below).

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The actual in-vehicle testing process when using Bowmonk decelerometer units has not changed, but existing users of an older non-connected Bowmonk decelerometer devices should read the new manual as the control button functions have changed slightly.

The computer that the software program is used on **MUST** :-

- Be running Microsoft Windows 7 or later (Both 32-Bit and 64-Bit versions are supported).
- Have a reliable connection to the Internet (An Ethernet/wired connection is preferred to a Wi-Fi connection).
- Have at least one USB port available for use.

The MOT Test uses the terms 'Service Brake' and 'Parking Brake', however Bowmonk Connected uses the terms 'Service Brake' and 'Hand Brake' throughout.

People installing the Bowmonk Connected software need to be moderately computer literate.

For those that are not, Bowmonk offer a low-cost 'Remote Support' service which includes the installation and configuration of the Bowmonk Connected product, combined with a brief training session on how to use Bowmonk Connected.

Once operational, Bowmonk Connected can be used by people with only basic computer skills – if you are able to use the MTS, you will be able to use Bowmonk Connected.

1.2 Your DVSA-Issued 'Key' Package.

Before using any item of 'connected' equipment, your testing site must apply to the DVSA for a 'certificate package' known as a 'Key'. The DVSA/MOT System will then email you a 'zip-file' file containing the 'Key' information that allows your Bowmonk Connected system to communicate directly with the MTS.

These security certificates are just as important as a user name and password. They should be treated as such when it comes to your internal security policies. If you lose this information or you suspect that it has been fraudulently used outside your organization, we recommend you follow the existing DVSA process for replacing a security key.

Your Bowmonk Connected decelerometer requires its own unique DVSA-issued key zip-file. You must only use the Key issued for use with your decelerometer with Bowmonk Connected. Please keep a record of which Key package is assigned to each item of 'Connected' equipment in your test lane(s).

You may use the same decelerometer Key for Bowmonk Connected on as many computers at your site as you wish, however only one of these can be 'connected to the MTS' at any one time.

To obtain your decelerometer key:-

- a) Log in to the MTS as usual
- b) Make sure the e-mail address declared in your MTS profile is correct and working.
- c) Open your VTS site's properties page.
- d) In the 'Change and connect equipment' section, click on the 'Request a key' link.
- e) When asked 'What equipment do you need a key for?' please select 'Decelerometer' and click the 'Continue' button. The MTS will now create the electronic key you require.
- f) Click on the 'Site Keys' button to show the newly-generated decelerometer key.

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- g) Please only click on the 'Email me the key' link when you actually *need* to receive it i.e. the installation of Bowmonk Connected/your decelerometer is actually underway.
- h) Before e-mailing you the key, the MTS system will ask you to confirm there is an engineer on site with you at the moment.
 - If you are self-installing Bowmonk Connected, then you are the commissioning engineer and should click the 'Send me the key' link and proceed as below.
 - If Bowmonk or a third party are installing/commissioning Bowmonk Connected on your behalf, you should liaise with them about when to actually click on the 'Send me the key' link and what to do with the resulting e-mail you receive.

The MTS e-mails the Key information as a password-protected 'zipped' file (Also known as a 'Compressed Folder') attachment to the e-mail address defined in your MTS user profile. The password for this zip-file is the MTS login user name (**Not** the password or security token number) of the person requesting the key from the MTS system.

E.g. if someone with a family name of 'Example' requests the key, the zip-file password could be 'EXAM9999'.

The e-mail containing the key instructs you not to share the details with anyone outside your organization, but is definitely acceptable to pass them to your commissioning engineer *ONLY*.

You may have several 'Key' certificates issued to you, typically one for each item of 'connected' equipment you have at your VTS. Please remember that only the Key assigned to your Bowmonk decelerometer should be used with the Bowmonk Connected program.

You must safely store the Key zip-file *and the associated password* somewhere after first use, as it will be needed in the future during any Bowmonk Connected software upgrade, new installations, or re-installation onto a replacement for a faulty computer etc.

This is important as once the Key has been used you will not be able to email it to yourself again from the MTS and would have to request a replacement Key instead.

You may only proceed to installing and configuring Bowmonk Connected on your chosen computer(s) once you have the DVSA-issued Key zip-file for use with the your decelerometer, and you know the password associated with it.

- If you are installing Bowmonk Connected onto your computer for the first time, please see below for a step-by-step guide to doing this.
- If Bowmonk Connected is already installed on your computer then [stop here and read the "Upgrade Procedure" section in the 'Release Note' document](#).

1.3 Notes for I.T. / Network Professionals

If you are **NOT** an I.T. or Network Professional then please skip over this '*Notes for I.T. / Network Professionals*' information (unless you are interested!) and continue at 'Installing Bowmonk Connected, in section 2 below.

IPv6 Information

- Bowmonk Connected is IPv6 capable, and will prefer IPv6 over IPv4 if available. As a result, the AWS host identified in the DVSA-Issued properties file / IOT setting **MUST** be reachable over

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IPv6 from your internal network, i.e. your WAN interface(s) and policies must support E-T-E routing of IPv6 over the public internet.

- Some 'dual stacked' sites use routed IPv6 internally, but not externally. In this situation it is usually necessary to unbind IPv6 from the network adapter(s) used by the machine hosting Bowmonk Connected, or configure E-T-E routing of IPv6.

Firewall Information

- Bowmonk Connected establishes connections to the MTS service access point declared in the individual DVSA Key packages. This *usually* results in Bowmonk Connected establishing TCP connections to <hostname>.amazonaws.com port 8883. Please ensure client traffic (Both IPv4 and IPv6 if required) is permitted to reach the external MTS SAP.
- TLS SNI is in use, so the host addresses returned to the host name lookup are many and variable.

Installation method and platform information

- Installation using the MSI only is possible, but this bypasses the OS/.NET compatibility checks performed by Setup.exe.
- Current support is limited to Windows 7, 8 or 10 (32 or 64 bit) with a minimum of .NET 4.6.

Installation authorities required

- When installing the Bowmonk Connected software, the User Account in use must have the authority to install software for at least the User Account in use, and the commissioning engineer should either have the elevation password required to by UAC (if necessary), or an Administrator-group account of they are operating as a Standard User.

Certificate handling

- It is mandatory to use a DVSA 'Key' package dedicated to Bowmonk Connected/Decelerometer use. Do not use Keys allocated to other operating items of equipment due to the inherent connection pre-emption at MTS/AWS. A common symptom of this 'certificate duplication' is that devices appear to randomly and autonomously disconnect and/or re-connect to MTS.
- Once the installation is commissioned and tested, no Key data needs to remain on the host machine filesystems.
- The unique Key data for each installation will be required again during any upgrade to Bowmonk Connected or machine/OS replacement. Please ensure any backups of the Key data and its associated password are held according to both the DVSA's and your own security policies.

Other recommendations

- Avoid creating the 'Output' folder in ephemeral locations (roaming profile storage, cloud locations (e.g. OneDrive), network shared drives etc.). This folder is not generally used, but it must exist and be 'read/write' by the user account in use.

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Section 2 – Installing Bowmonk Connected

Please remember that a copy of the Bowmonk Connected software needs to be installed and configured on *each computer* that will be used to send decelerometer test results when performing MOT tests.

If Bowmonk Connected is already installed on the computer, then this is not a 'First time install' and you should read the 'Upgrade' section of the Release Note document instead.

Do **NOT un-install the existing version** of Bowmonk Connected until you have located your backup copies of the DVSA-issued 'Key' information assigned to your decelerometer, including any password required.

2.1 Windows Update

Each computer that 'Bowmonk Connected' will be used on needs to be completely 'up to date' with the latest security updates and patches etc. from Microsoft *before* installing and using Bowmonk Connected.

Please execute a 'Windows Update' and ensure that all current updates, especially for the '.NET' framework, are applied before using Bowmonk Connected. This is particularly important for computers **NOT** using Microsoft Windows 10.

Bowmonk assume you or your staff already know how to do this on your computer systems.

If your computer requires restarting after the Windows Updates complete, please restart it before installing Bowmonk Connected.

2.2 Obtain the latest Bowmonk Connected software release.

Bowmonk Connected software is only available via download from the Bowmonk website via the internet. It is no longer delivered on a USB 'Thumb Drive'.

2.2.1 Download from Bowmonk Ltd.

Please visit www.bowmonk.com/mts and download the latest released version available from the 'Software Releases' section.

If the latest release is newer than 'Release 3.0', please remember to switch from reading this version of the user guide and/or Release Note document to the one(s) appropriate for the new release (They are available to download separately).

Please note that you may not see the word '.zip' at the end of the file names shown in the examples below on your computer.

This is due to your computer's settings and can make it hard to distinguish between a normal 'Real Folder' and a 'Zip-file'.

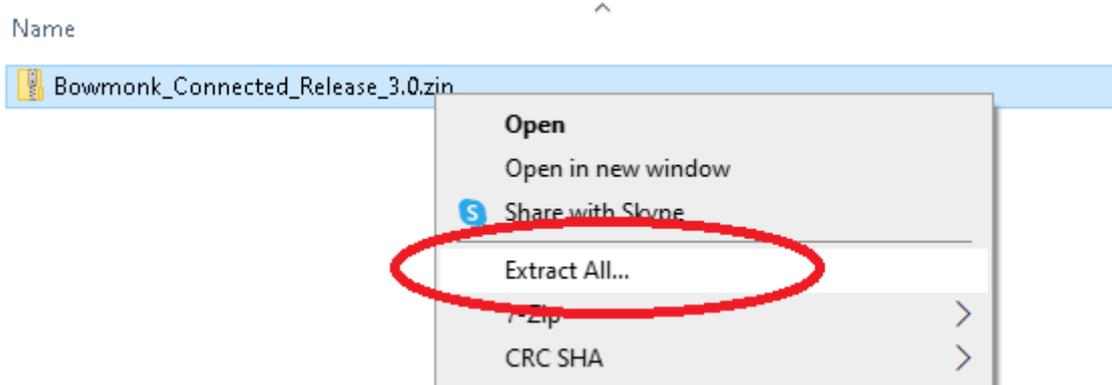
Normal folders will have 'Type' details of 'File Folder' shown against them. Zip-files will show up with type details of 'Compressed (zipped) folder'.

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2.2.2 Extract Bowmonk Connected package contents

Once the 'Bowmonk_Connected_Release_3.0.zip' file downloaded above is in its own unique directory, right-click on it (using the right-hand mouse button), and then left-click on the 'Extract All..' option from the list that pops up.

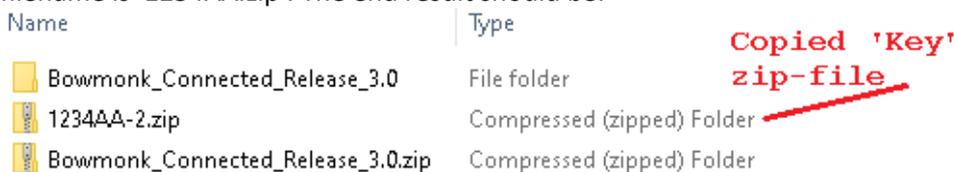


Now click on the **Extract** button at the bottom of the resulting window, and the computer will unpack the contents for you. The end result should be :-



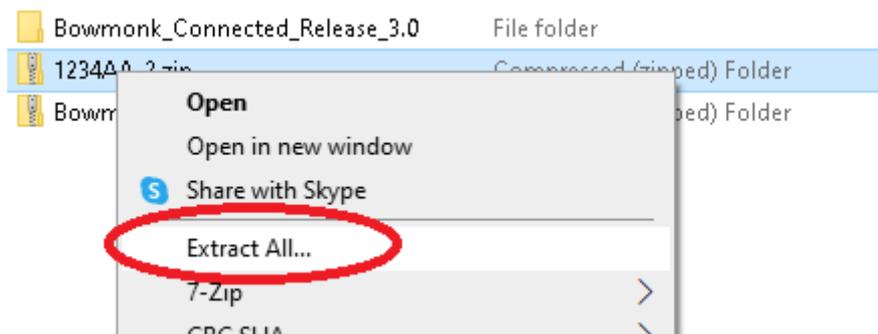
2.3 Add the DVSA-Issued 'Key' zip-file

Copy the 'Key' zip-file issued to you by the DVSA into this folder. In the example below, the Key filename is '1234AA.zip'. The end result should be:-



2.4 Extract 'Key' zip-file contents

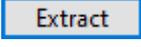
a) Right-click on the password-protected 'Key' zip-file (using the right-hand mouse button), and then left-click on the 'Extract All..' option from the list that pops up.



Bowmonk recommend you untick the 'Show extracted files when complete' option.

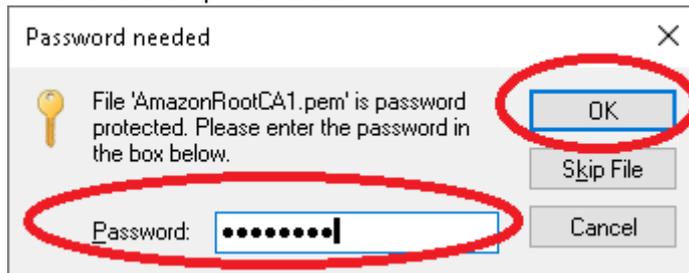
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Now click on the  button at the bottom of the resulting window.

b) You will now be asked for a password. Please enter the password, which is *usually* the MTS User ID of the *person requesting the key/certificate* from the MOT system, and in upper-case/all capital letters. Once the password is entered, click the 'OK' button to extract the contents of this 'compressed zip-file' into a normal Windows folder.

NB: **ALL** the individual files contained in the zip-file **MUST** be successfully extracted, so do **NOT** click the 'Skip File' button.



c) If the password is CORRECT, the computer will unpack the Key data into a folder with the same name as the zip-file (Remember, the 'zip' file will show as a 'Compressed (zipped) folder', and the contents you have just extracted will appear in a 'File Folder').

 1234AA-2	File folder	New folder containing extracted files
 Bowmonk_Connected_Release_3.0	File folder	
 1234AA-2.zip	Compressed (zipped) Folder	
 Bowmonk_Connected_Release_3.0.zip	Compressed (zipped) Folder	

Name	Files in new folder	Type
 1234AA-2.cert.pem		PEM File
 1234AA-2.private.key		KEY File
 1234AA-2.properties		PROPERTIES File
 1234AA-2.public.key		KEY File
 AmazonRootCA1.pem		PEM File

d) If the password is INCORRECT, the computer will inform you of this, but may still create a new folder which will probably be empty. Please delete this useless new folder and try again with the correct password.

2.5 Install Software / Applications

Please open the folder containing the Bowmonk Connected software that you extracted earlier.

Name	Type
 1234AA-2	File folder
 Bowmonk_Connected_Release_3.0	File folder
 1234AA-2.zip	Compressed (zipped) Folder
 Bowmonk_Connected_Release_3.0.zip	Compressed (zipped) Folder

The end result should be :

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Name	Type
Bowmonk Connected	File folder
Deceleometers	File folder
Support	File folder
VSP_Drivers	File folder
RELEASE_3.0.TXT	Text Document

2.5.1 Virtual Serial Port Driver

Bowmonk Connected requires 'Virtual serial port' driver software to communicate with the decelerometer.

Bowmonk recommend that you install these required 'Virtual COM Port' drivers at this point.

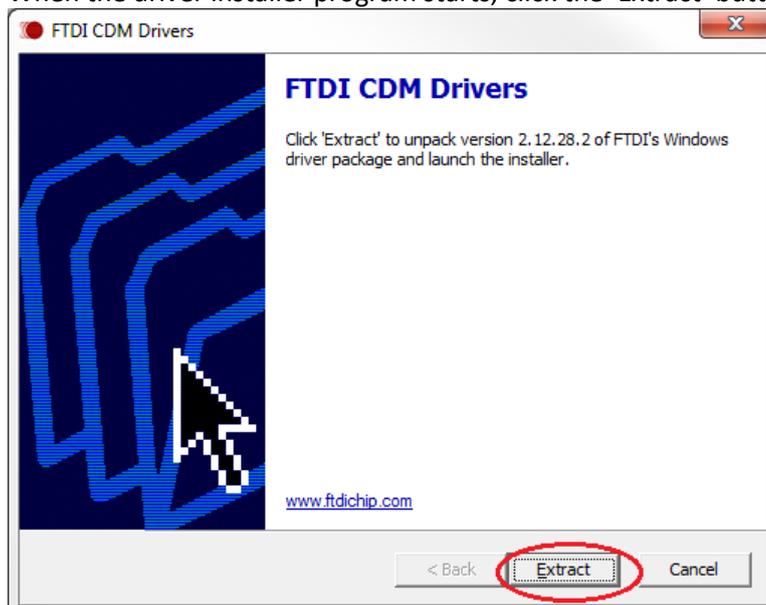
The driver install program is included with the Software Release package downloaded from the Bowmonk website above. To install these drivers:-

1. Open the 'VSP_Drivers' folder.

Name	Type
Bowmonk Connected	File folder
Deceleometers	File folder
Support	File folder
VSP_Drivers	File folder
RELEASE_3.0.TXT	Text Document

**Virtual Serial Port
Drivers folder**

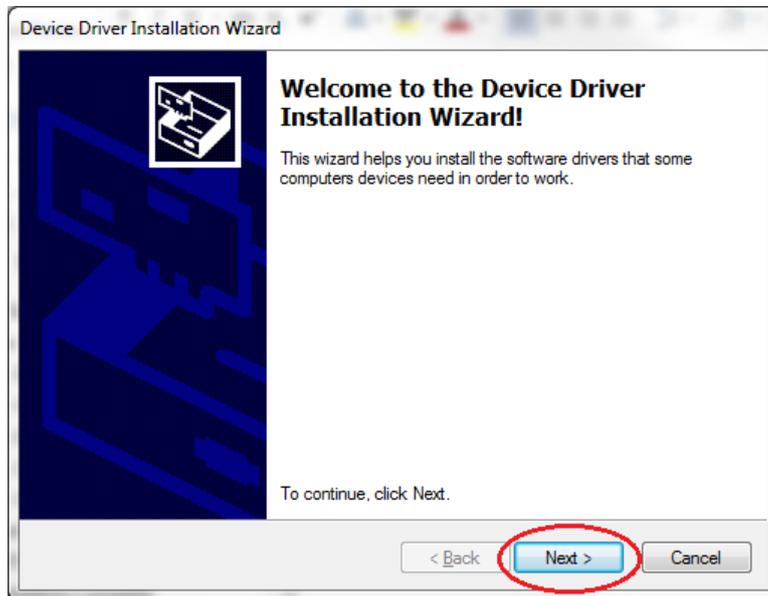
2. You should find a single executable 'Application' file inside.
3. Double-click this executable file and follow the instructions presented by the installer program. If you are asked if it is OK for this program to make changes to the computer, click 'Yes'.
4. When the driver installer program starts, click the 'Extract' button.



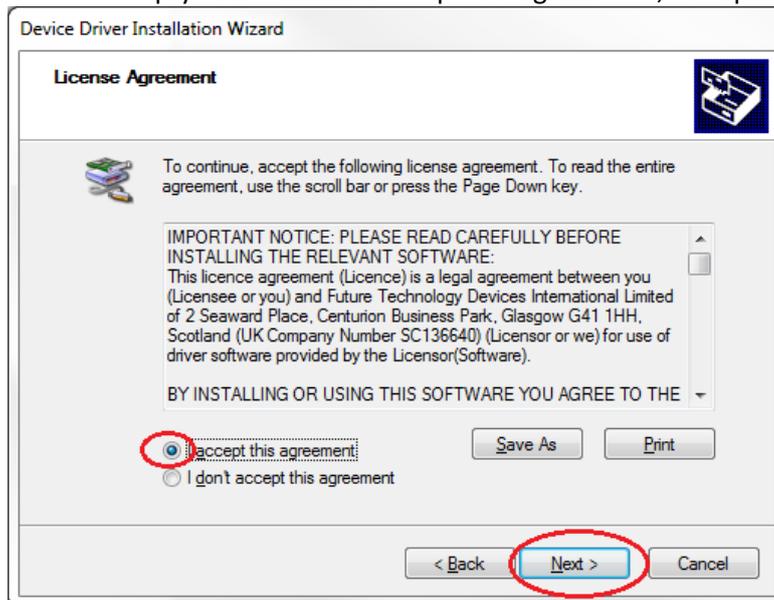
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5. The installer will then continue. Press the 'Next' button.



6. Click the empty circle next to 'I accept this agreement', then press the 'Next' button.



7. The installer program will then begin installing the necessary drivers.
8. When the driver installer program completes, click the 'Finish' button.
9. If you are prompted to restart your computer, please do so.

2.5.2 Install the Bowmonk Connected software

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The Bowmonk Connected program is included with the Software Release package downloaded from the Bowmonk website above.

- 1) Open the 'Bowmonk Connected' folder.

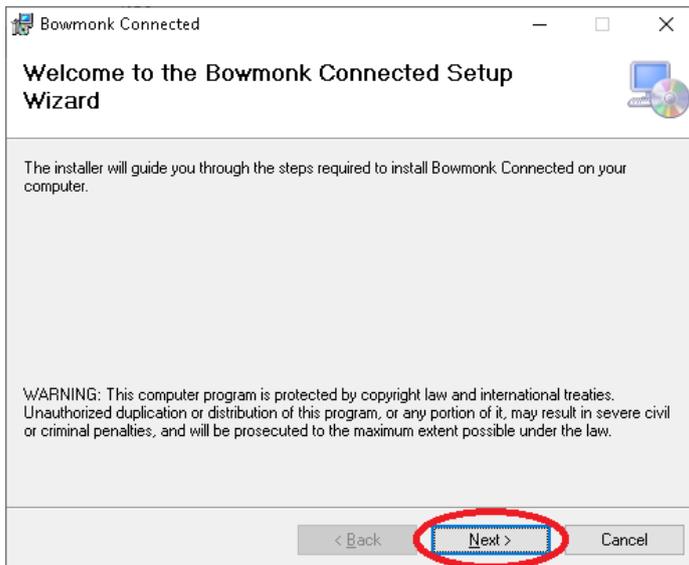
Name	Type
Bowmonk Connected	File folder
Deceleometers	File folder
Support	File folder
VSP_Drivers	File folder
RELEASE_3.0.TXT	Text Document

Bowmonk connected install folder

- 2) Double-click the 'Setup' program

Name	Type
Setup Program	
setup.exe	Application
BowmonkConnectedInstall.msi	Windows Installer Package

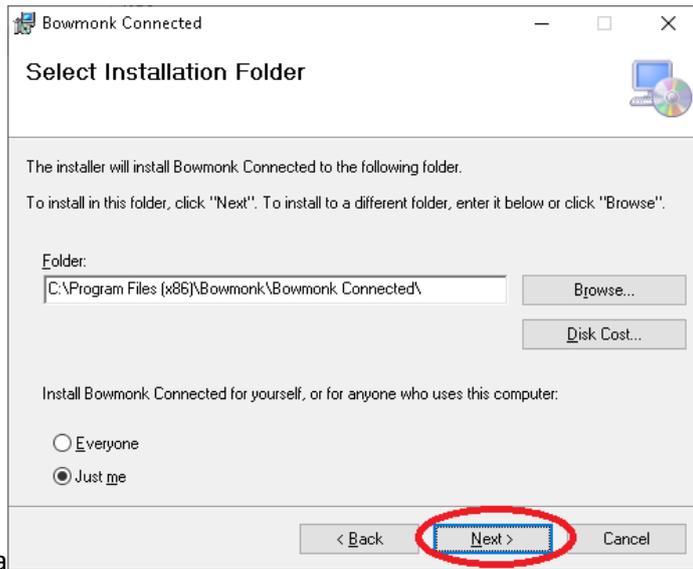
- 3) When the Setup program starts, click the 'Next' button.



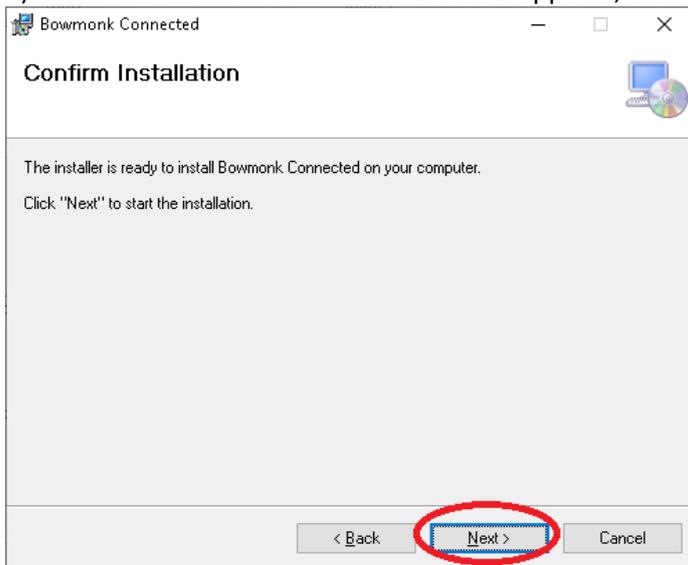
- 4) When the 'Select Installation Folder' window appears, click the 'Next' button.

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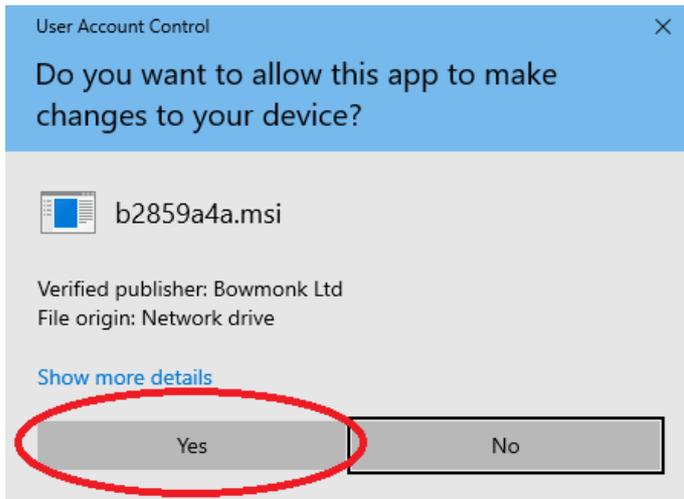
5) When the 'Confirm Installation' window appears, click 'Next' again.



6) You **may** see a window asking 'Do you want to allow this app to make changes to your device?'. If you do, click 'Yes'.

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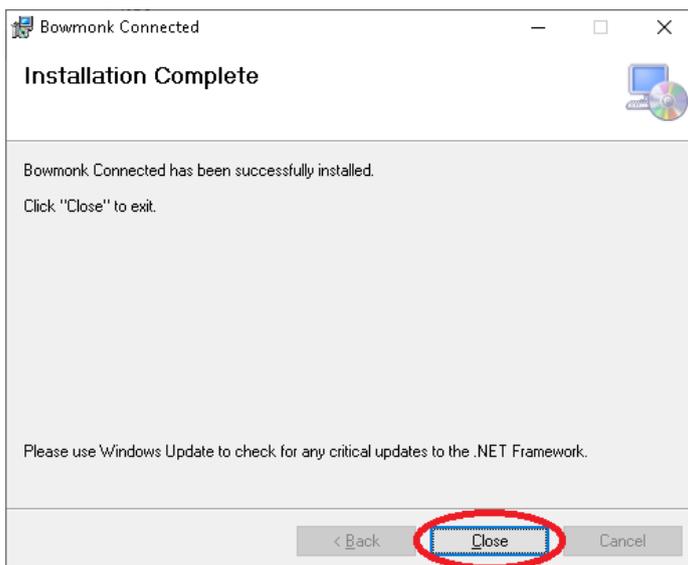
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7) Bowmonk Connected will now be installed on your computer.

During the installation process, Pick the default options presented to you, by pressing the 'Next' button when prompted.

When the 'Installation Complete' window appears, click on 'Close'.



8) Bowmonk Connected is now installed on your computer. You will find a new  icon on your desktop display.

Bowmonk Connected is **NOT** ready for use yet – please proceed to configure it's settings as shown below.

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Section 3 – Configuring Bowmonk Connected

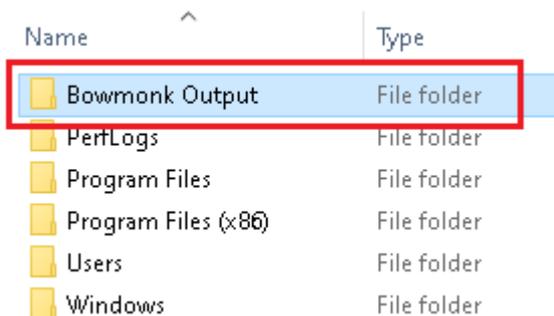
In this section, we will configure Bowmonk Connected to work both on this computer and with your unique VTS details.

This involves (a) creating a folder to store any information output by the program, (b) telling the Bowmonk Connected program where this output folder is, and (c) automatically importing important settings from the Key package issued to your VTS (by the DVSA) for the decelerometer.

This 'Output folder' should be on the computer's internal storage drive (Usually drive letter 'C:'). Bowmonk recommend that the output folder is created in the top-level 'root' folder of your computer's C: drive. We also advise against creating the 'Output' folder in the 'My Documents' or 'Documents' folder, on a network 'shared' drive, or in a 'cloud' file storage service. The examples below show the recommended location and name of the 'Output' folder, i.e. 'C:\Bowmonk Output'.

3.1 Output folder creation

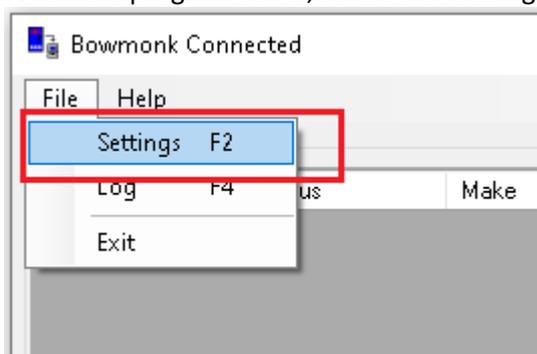
Create a new empty folder named 'Bowmonk Output' in the 'root' or 'top level' folder of your computer's main internal storage drive. For example :-



Name	Type
Bowmonk Output	File folder
PerfLogs	File folder
Program Files	File folder
Program Files (x86)	File folder
Users	File folder
Windows	File folder

3.2 Tell Bowmonk Connected where the Output Folder is

a) Double-click the  icon on your desktop to start Bowmonk Connected for the first time. When the program starts, select the 'Settings' option from the program's File Menu.



b) When the 'Application Settings' Window opens , Click the 'Browse' Button.

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Application Settings

General

Output Folder: C:\Output **Browse Button**

Show Notifications Save Logging

MTS

Client Id:

Site Number:

IDT: awow3pxd2muwd-ats.iot.eu-west-1.amazonaws.com

Port: 8883

Use MTS Auto Connect

Security

Root Cert:

Client Cert:

Private Key:

Decelerometer

Com Port:

Autoscan Com Ports for Decelerometer

c) Browse to the location of your created output folder (e.g. 'C:\Bowmonk Output'), select this folder and click the 'OK' button.

Browse For Folder

Select Output Folder **Previously created Output Folder**

- Bowmonk Output
- PerfLogs
- Program Files
- Program Files (x86)
- Users
- Windows

d) After clicking 'OK', the full Output Folder name should appear in the output folder box., e.g.

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Application Settings

General

Output Folder: C:\Bowmonk Output 

Show Notifications Save Logging

MTS

Client Id:

Site Number:

IOT:

Port:

Use MTS Auto Connect

Security

Root Cert: 

Client Cert: 

Private Key: 

Decelerometer

Com Port: 

Autoscan Com Ports for Decelerometer

3.3 Import DVSA Key settings

We now need to import the DVSA Key details into Bowmonk Connected. To do this :-

- a) Click the 'Reset' button on the Application Settings Window.

Application Settings

General

Output Folder: C:\Bowmonk Output 

Show Notifications Save Logging

MTS

Client Id:

Site Number:

IOT:

Port:

Use MTS Auto Connect

Security

Root Cert: 

Client Cert: 

Private Key: 

Decelerometer

Com Port: 

Autoscan Com Ports for Decelerometer

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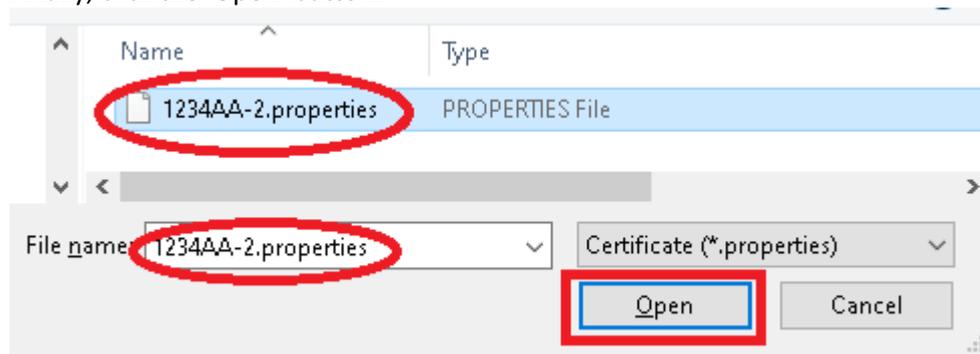
- b) Navigate to the place that you extracted the contents of the DVSA Zip-file to earlier, and double-click on the folder containing the key files. Make sure you click on the folder and **NOT** the original 'compressed' zip-file.

 1234AA-2	File folder	 Extracted contents
 Bowmonk_Connected_Release_3.0	File folder	
 1234AA-2.zip	Compressed (zipped) Folder	
 Bowmonk_Connected_Release_3.0.zip	Compressed (zipped) Folder	

The 'Open' window should show you a single PROPERTIES file in this folder, and the first part of the filename should refer to your VTS site number. For example, if your VTS number is '1234AA', then the PROPERTIES file may appear as '1234AA-2.properties'. If this is not the case, then you have selected the wrong Key package or folder and should try again.

- c) When you are sure the PROPERTIES file is definitely the one associated with the decelerometer, then click on it (The file's name will automatically appear in the 'File Name' box when you do).

Finally, click the 'Open' button.



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- d) You now should find that all the individual settings required have been set automatically, e.g.:-

Application Settings

General

Output Folder: C:\Bowmonk Output

Show Notifications Save Logging

MTS

Client Id: 1234AA-2

Site Number: 1234AA

IOT: exampleHostname.amazonaws.com

Port: 8883

Use MTS Auto Connect

Security

Root Cert: E:\Decelerometer\1234AA-2\AmazonRootCA1.pem

Client Cert: E:\Decelerometer\1234AA-2\1234AA-2.cert.pem

Private Key: E:\Decelerometer\1234AA-2\1234AA-2.private.key

Decelerometer

Com Port: [Dropdown]

Autoscan Com Ports for Decelerometer

- e) Finally, click the 'Save' button.

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Application Settings

General

Output Folder: C:\Bowmonk Output

Show Notifications Save Logging

MTS

Client Id: 1234AA-2

Site Number: 1234AA

IOT: exampleHostname.amazonaws.com

Port: 8883

Use MTS Auto Connect

Security

Root Cert: E:\Decelerometer\1234AA-2\AmazonRootCA1.pem

Client Cert: E:\Decelerometer\1234AA-2\1234AA-2.cert.pem

Private Key: E:\Decelerometer\1234AA-2\1234AA-2.private.key

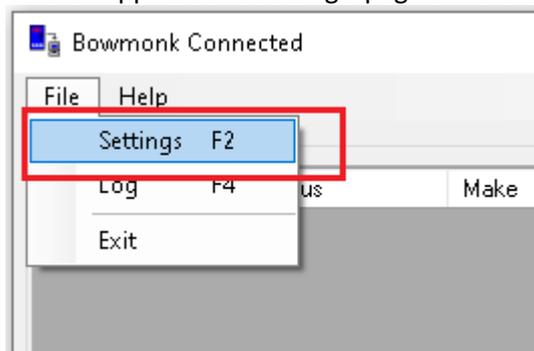
Decelerometer

Com Port:

Autoscan Com Ports for Decelerometer

3.4 Check that Key information is valid / Test the connection to MTS.

a) Re-open the 'Applications Settings' page as before, using the File menu 'Settings' option.



b) Click on the 'Test MTS Connection' button. The program will attempt to connect to the MTS.

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Application Settings

General

Output Folder: C:\Bowmonk Output

Show Notifications Save Logging

MTS

Client Id: 1234AA-2

Site Number: 1234AA

IOT: exampleHostname.amazonaws.com

Port: 8883

Use MTS Auto Connect

Security

Root Cert: E:\Decelerometer\1234AA-2\AmazonRootCA1.pem

Client Cert: E:\Decelerometer\1234AA-2\1234AA-2.cert.pem

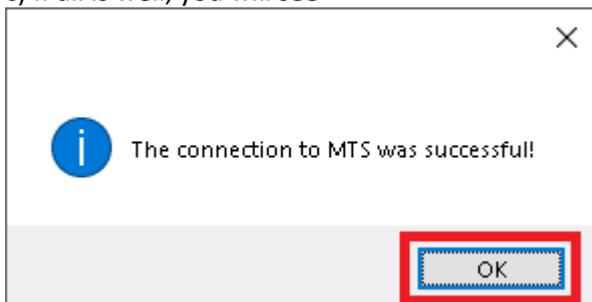
Private Key: E:\Decelerometer\1234AA-2\1234AA-2.private.key

Decelerometer

Com Port:

Autoscan Com Ports for Decelerometer

c) If all is well, you will see



...and you should now click the 'OK' button.

d) Now click the 'Close' button shown on the 'Applications Settings' page.

3.5 Cleaning up after configuration

You **must** ensure that you have a 'backup copy' of both the Key zip-file **and** the password associated with it, as this information will be needed during any future upgrade of Bowmonk Connected, or if a computer breaks or is changed for any reason.

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Bowmonk recommend you copy the Key zip-file to a removable USB storage device and store this securely according to your local security policies.

For security reasons, the Key details the DVSA sent to you should no longer remain on the computer and should preferably be deleted from the machine you have just been working on.

Bowmonk recommend that you delete both the Key zip-file AND the folder containing the extracted information from the local machine.

 1234AA-2	File folder	Delete BOTH the Key Certificate zip-file and folder
 Bowmonk_Connected_Release_3.0	File folder	
 1234AA-2.zip	Compressed (zipped) Folder	
 Bowmonk_Connected_Release_3.0.zip	Compressed (zipped) Folder	

After these two items have been deleted, please empty the Windows Recycle Bin to ensure complete removal.

You should also delete any key/certificate data left on the machine from any earlier release of Bowmonk Connected.

Congratulations! Bowmonk Connected is now installed, configured and ready for use.

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This page is deliberately empty.

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Section 4 - How to use Bowmonk Connected

Once the Bowmonk Connected software is both installed and successfully configured as above, the system is ready for use.

Perform the MOT Test normally, including any Service Brake and Handbrake tests that require the use of a decelerometer.

Any test results from the decelerometer must be sent to the MTS **BEFORE** logging back into the MTS to complete the test.

Step 4.1 : Connecting your decelerometer

When you are ready to send the test results from the decelerometer to the MTS, the unit must be attached to the computer.

STEP 1 : Connect your decelerometer to the computer using the USB cable supplied with it, then :

STEP 2 : Turn on the decelerometer.

1. If you are using a **Tapley EBM** decelerometer, switch the unit on by pressing the black 'Power' button until the device display shows '**Sbr**'.
2. If you are using a **Brakecheck** decelerometer, switch the unit on by pressing the 'Menu' button until the device display shows '**Sbr**'.

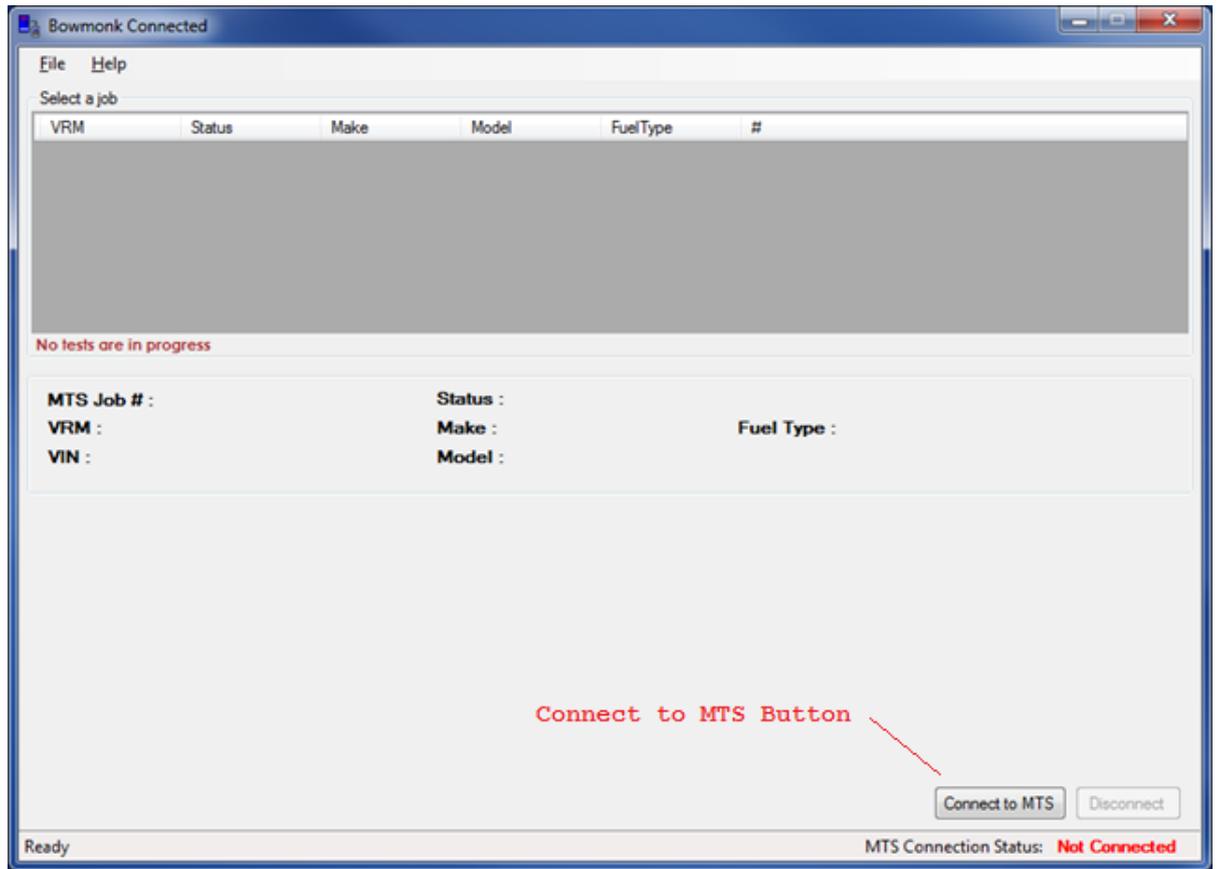
STEP 3 : Only start the 'Bowmonk Connected' program (See below) if the USB cable is connected and the decelerometer is switched on.

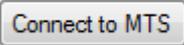
Step 4.2 : Starting Bowmonk Connected

- Double-click the  icon on your desktop to start Bowmonk Connected.
- There will be a brief pause while the application automatically locates the decelerometer you connected above. You will then see :-

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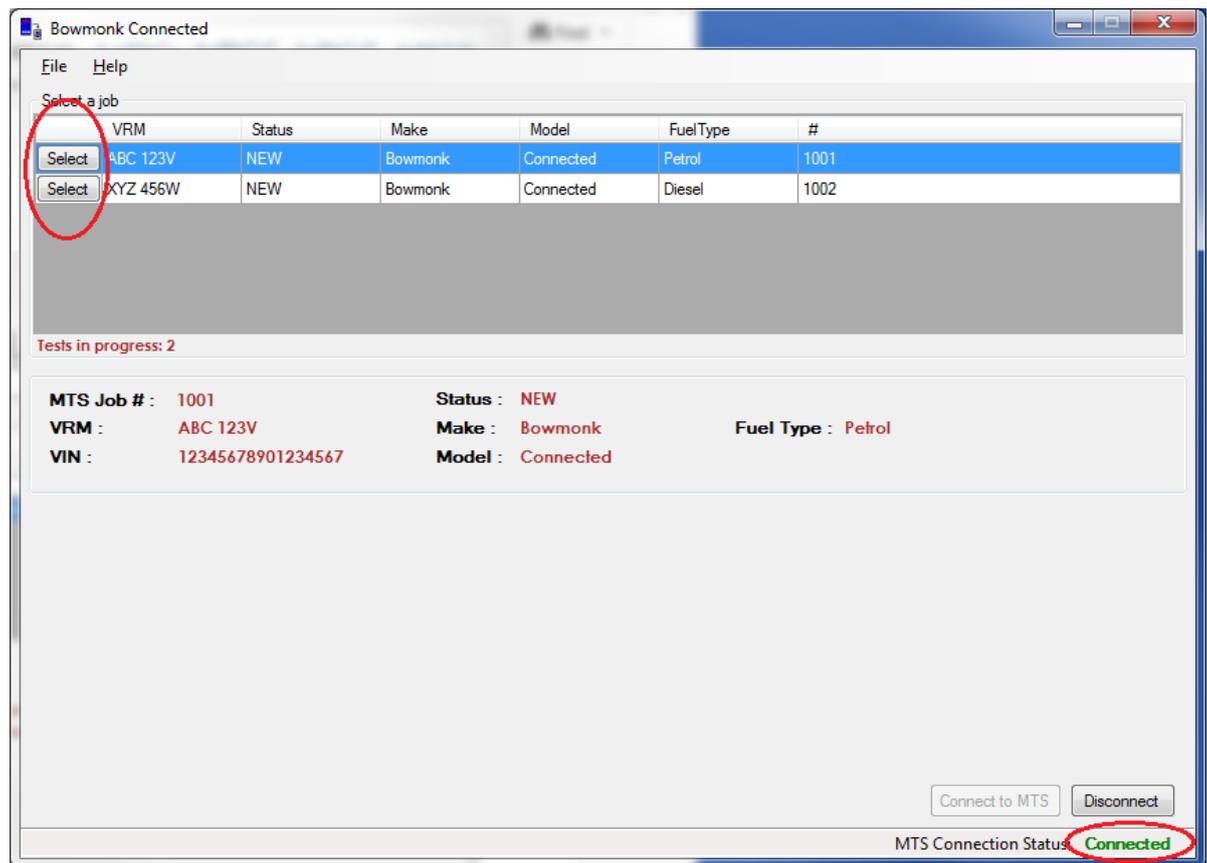
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- Click on the  button. The display should shortly change to show a list of MOT tests in progress at your VTS, for example :-

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The example above shows:-

- a) That your computer is now 'Connected' to the MTS as expected.
- b) There are two MOT tests currently in progress at your VTS.

Once you are familiar with using program, Bowmonk recommend turning on the 'Auto-connect' setting on the settings page, at which point you will no longer need to click the 'Connect to MTS' button each time.

Step 4.3 : Sending test results

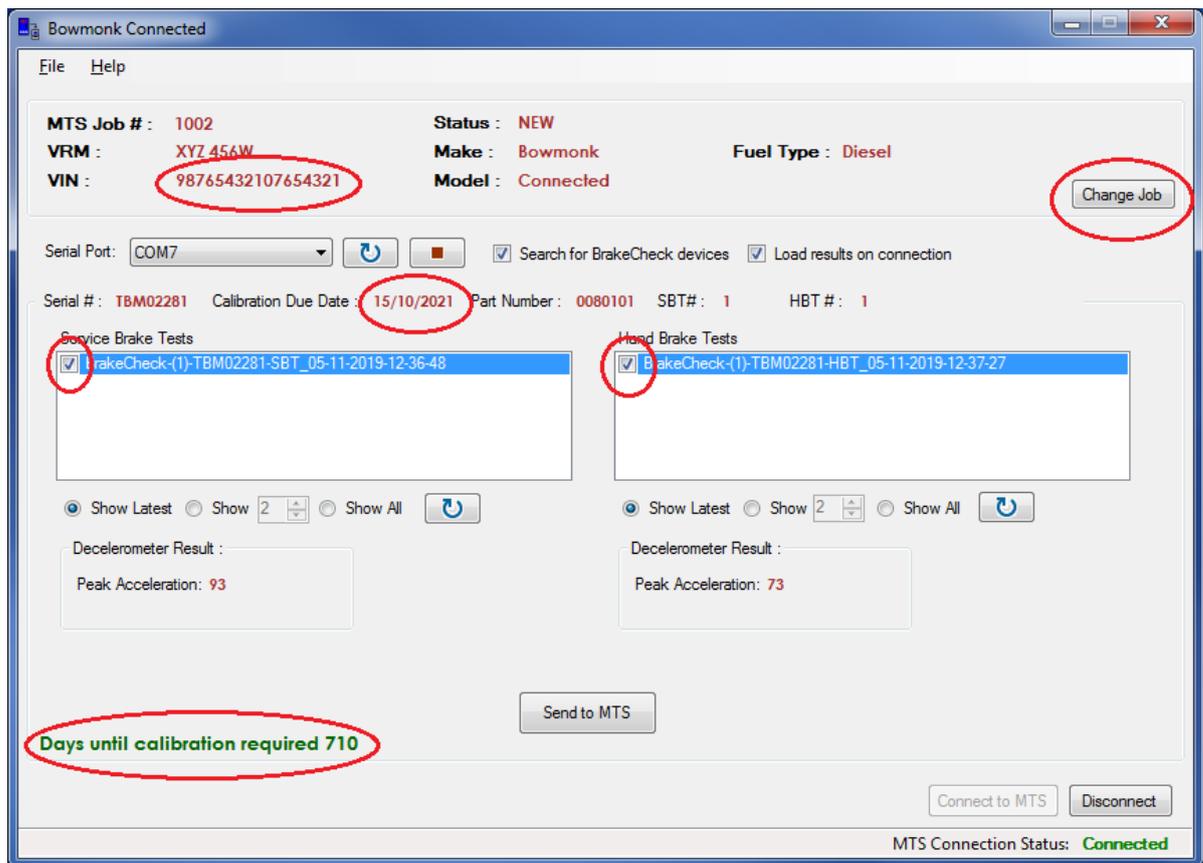
Option 4.3.1 : Sending both Service Brake and Hand Brake results as a pair.

Choose this option if the vehicle being tested requires decelerometer testing of **both** the Service Brake **AND** the Hand Brake.

- Click the button next to the VRM of the vehicle you have just tested with the decelerometer. The screen will change to :-

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The example above shows:-

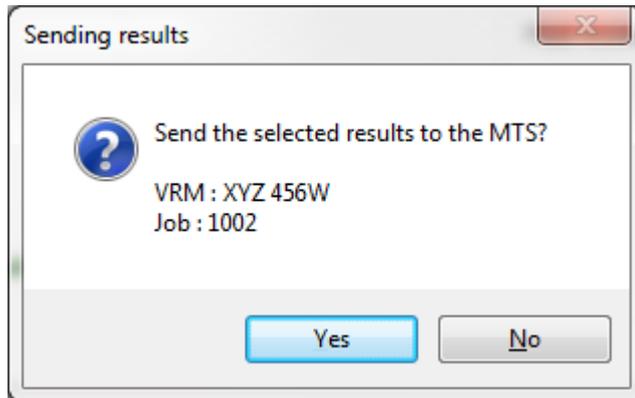
- You are about to send test results for both the Service Brake and Hand Brake relating to vehicle 'XYZ 456W' - If the last test result in the decelerometer unit is NOT for this vehicle, then click the **Change Job** button and re-select the correct vehicle from the list of tests in progress.
- The VIN for this vehicle is '98765432107654321'
- Your decelerometer is due for re-calibration on the 15th of October 2021, in 710 days time. You will not be able to automatically send results to the MTS on or after this date.

If no decelerometer are shown, this usually means the connected decelerometer has not been recognized and you should close the Bowmonk Connected program, check that the unit is actually connected and/or turned ON as needed (See above) and try again.

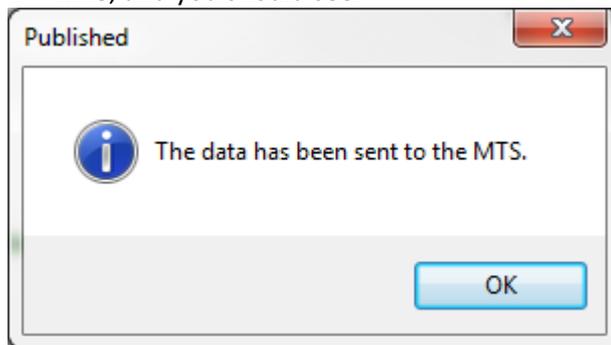
- Make sure the tick-boxes next to the latest Service Brake and Hand Brake test are BOTH ticked. **NB:** You will not be able to select a test result if it too old to relate to the current MOT test in progress.
- To send the brake test results to the MTS, click the **Send to MTS** button. You now will be asked to confirm that you wish to send these results – you should now double-check that the results you are about to send definitely relate to the correct vehicle.

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- If this **IS NOT** the correct vehicle, click the 'No' button followed by the  button and re-select the correct vehicle.
- If this **IS** the correct vehicle, click the 'Yes' button. The test results will now be sent to the MTS, and you should see:-



Option 4.3.2 : Sending only Service Brake or Hand Brake results individually.

Choose this option if the vehicle being tested requires decelerometer testing of the Service Brake *OR* the Hand Brake only, not both. (Sending only Hand Brake test results is the usual case).

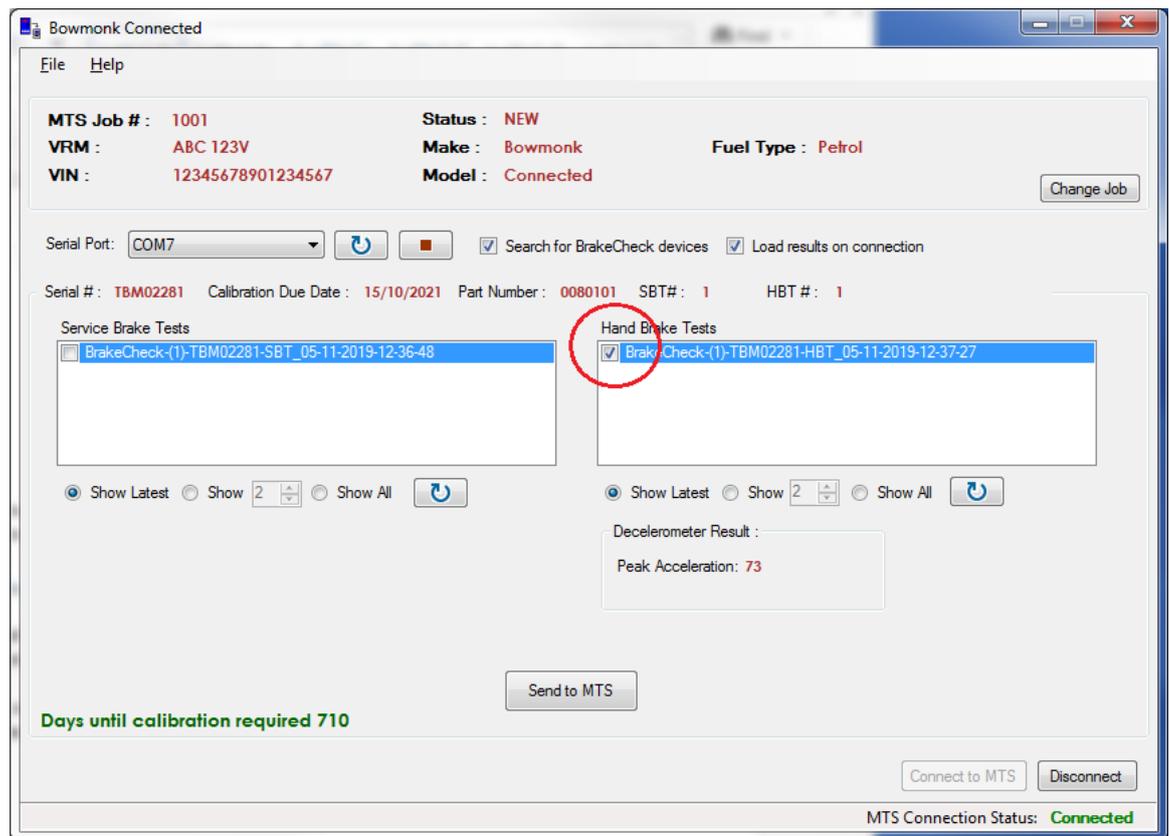
The process is the same as sending both Service Brake and Hand Brake results as a pair above, however instead of both the Service Brake and Hand Brake tick-boxes being ticked, you should tick only the one that applies, and un-tick the one that does not apply.

For example, to send only a Hand Brake test result, only tick the Hand Brake Test result, and **un-tick** the Service Brake Test result.

Remember that you will not be able to select a test result if it too old to relate to the current MOT test in progress.

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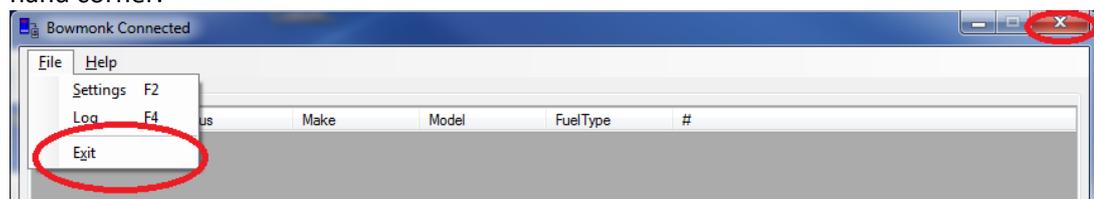


In this example, only Hand Brake results will be sent to the MTS.

Step 4.4 : After sending test results

Bowmonk recommend that :-

- The 'Bowmonk Connected' program is closed between tests. To do this, either click on the 'File' menu item and select 'Exit', or click the usual Windows 'Close' button in the top right-hand corner.



- Both **Tapley EBM** and **Brakecheck Series 1** decelerometers are disconnected from the computer after sending test results.
- **Brakecheck Series 2** decelerometers may remain connected to the USB port to charge their internal battery.

The battery charge light will flash when the battery is charging, and will change to permanently lit (Not flashing) when the battery is fully charged. When fully charged, the decelerometer should be disconnected to avoid damage due to over-charging.

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Step 4.5 : Completing the MOT Test

Once you have sent the necessary decelerometer results to the MTS, log in to the MTS using your Web Browser and complete the test as normal.

The brake test results will already be present in the MTS, just as if you had typed them in manually when using an older 'non-connected' decelerometer.

END OF DOCUMENT