Reference	SSM71870
Models	LR4 / L319 LR2 / L359 Range Rover / L405 Range Rover Sport / L494 Range Rover Evoque / L538 Range Rover Sport / L320
Title	Unable To Unlock / Start Vehicle With Smart Key 13 & 14MY only
Category	Electrical
Last modified	20-Aug-2014 00:00:00
Symptom	203000 Basic Electrical
Attachments	21Instructions to record a CAN trace.pdf, Non start RFA BCM full SSM flowchart_V3 05_08_14.pdf
Content	**Models affected** Discovery 4 / L319 -13 and 14MY Range Rover (All New) / L405 – 13 and 14MY Range Rover Evoque / L538 – 13 and 14MY Range Rover Sport / L320 – 13MY Range Rover Sport L494 (All new) – 14MY Freelander 2 L359 – 13 and 14MY

Issue

Land Rover are currently investigating Body Control Modules (BCM) and Remote Function Actuators (RFA) replaced for a non-start condition.
Following supplier analysis the modules have been categorised as "No Fault Found".

Cause

Currently under analysis.

Action

If a vehicle is presented with the following symptoms please follow the test procedure outlined below before consideration is given to component replacement:
Vehicle does not lock or unlock using the key fob, or passive entry exit is not functioning.
After gaining entry to the car using key blade it does not start.
Even if entry is possible to the car, the car does not start when start button is pressed.
The vehicle has not had a software download immediately prior to the failure.

Test procedure:

Please follow the test procedure as detailed in the flowchart attached. Please note details at all important decision points and record them on a TA raised (if any)
Also attached is the process for obtaining a can trace.

Please Note:

1. Do not disconnect the battery or perform a hard reset on the vehicle at least until this flow chart has been followed.

2. Do not disconnect or move any connectors on the BCM

3. If entry is gained in the vehicle with the key blade the alarm may sound, do not press the ignition switch to shut the alarm off instead muffle the alarm sounder first then follow the test process in the flowchart.

Instructions to record a CAN trace

Pre-requisites

To carry out a CAN link monitor recording you must ensure you have the appropriate SW version and Firmware version *for the device under use* is updated as per the following procedure

SW= Software installed on tester (updated through Windows Start > All Programs > JLR > SDD > VCI Device Drivers)

FW= Firmware installed on device (updated through DA App Hub for DA devices & I-View Device Manager for I-View)

1. VCM - N/A (automatically updated but DVD137+ recommended)
2a. DA-Dongle - SW: V4.0 / FW: V57
2b. DA-Davina - SW: V4.0 / FW: V57
2c. DA-ST512 - SW: V4.0 / FW: V57
3. I-View - SW: V1.4.0 / FW: V5.1.0
4. MongoosePro JLR - SW: V1.1.12 / FW: N/A (automatically updates)

To run the CAN Link Monitor without diagnostics in Symptom Driven Diagnostics (SDD):

1. Select 'START' (Windows 7) or the Windows icon (Windows XP) from bottom tool bar.
2. Select 'All Programs'.
3. Select 'JLR'.
4. Select 'SDD'.
5. Select 'CAN Link Monitor'. A pop-up box will show.
6. Select 'Capture'.
7. Select 'Configure'.
8. Select the vehicle from the Platform drop-down menu.
9. Make sure both the Low Speed and High Speed CAN Networks are selected.#
10. Select "'MONITOR WITHOUT RUNNING DIAGNOSTICS' from the Filter range box
11. Insert USB Flash Drive into a USB port on the SDD machine.
12. Select the drive location for the USB Flash Drive from the Log File box.
13. Enter in the vehicle VIN as the File Name.
14. Select 'OK'.
15. Select 'CAPTURE'
16. Select 'START LOGGING'.A pop-up box will show 'Logging started successfully'.
17. Minimise the CAN Link Monitor window to the tool bar.
18. Start the vehicle function that needs to be monitored.
19. When the vehicle function has completed, select CAN Link Monitor tab from the tool bar.
20. Select 'CAPTURE'.
21. Select 'STOP LOGGING'. A pop-up window will display 'Logging stopped successfully'.
22. Locate the CAN Link Monitor file on the USB Flash Drive.
23. Open file and make sure the data has recorded correctly.
24. Close the file.
25. Remove the USB flash drive from SDD machine.

Start

Note vehicle condition as delivered i.e.
- Mirrors folded in or out? (powerfold)
- Look through windows are the doors locked or not on the inside?
- Are the smart keys in the vehicle or outside?

Note this down for adding this detail to the TA.

Press key fob button or Pull door handle on passive entry vehicles

Doors unlock ? — Yes → **Power fold Mirrors fold out? If fitted.**

Power fold Mirrors fold out? — No → Note this detail to include in TA when raised. / Yes → (to same note)

Doors unlock? — No → Gain entry using key blade

Alarm sounds, muffle sounder if required.

Do not press ignition/ Start button ← Gain entry

Connect SDD machine – start CANlink Monitor (instructions must be obtained from DTS), start CAN log as per correct process. Please ensure that MONITOR WITHOUT DIAGNOSTICS is selected.

Note: the size of the data contained in this CANlog will grow upto ~100mb. If the data is to large at the end of this process contact DTS for help in recovering this data. Or attach to TA.

Start SDD session

Confirm smart key is not being blocked by smart phone, laptop, phone chargers / invertors etc.

Press start button without pressing brake pedal

Ignition ON ? — Yes → The RFA & BCM are responding as required.

Ignition ON? — No → **Smart Key Not Found displayed?**

Smart Key Not Found displayed? — Yes → Place key at IAU. Press start button without pressing brake pedal → **Ignition ON ?** — Yes → Switch ignition OFF → Remove and put back fuse 17 from BCM → **All functions restored?** — Yes → (to Follow SDD system mapping)

All functions restored? — No → Check RFR for any RFA lost comms with RFR related DTCs. Rectify as required. → **All functions restored?** — Yes → (to Follow SDD system mapping) / No → Now need to confirm if BCM is functioning correctly.

Ignition ON? — No → Confirm the correct keys are being used by confirming the correct key blades. Run SDD IAU replacement App.

Smart Key Not Found displayed? — No → Carry out Hazard flasher test, press hazard light switch ← Now need to confirm if BCM is functioning correctly.

Front and rear DI work? — Yes → **Side repeaters work?** — Yes → (to The BCM is responding as required path)

Front and rear DI work? — No → **Side repeaters work?** — No → Check for CAN integrity (MS or BO), repair as necessary → **RFA & BCM Start & Entry functions restored?** — Yes → The BCM is responding as required. / No → Now outside the scope of this flow chart.

Side repeaters work? — Yes → **Hazard Switch illumination works?** — No (via side) / Yes → (down)

Hazard Switch illumination works? — No → **IPC Cluster tell-tale works?** — Yes → Note this detail to include in TA

IPC Cluster tell-tale works? — No → Note this detail to include in TA

Side repeaters work? — Yes → Note this detail to include in TA

Follow SDD system mapping and navigate to:-
Powertrain / Engine system / Starting system (& any further sub-symptoms) or Electrical / Battery / Power distribution / Ignition supplies (& any further sub-symptoms) Then perform the none start app following this process.

Now outside the scope of this flow chart. → Note this detail to include in TA

Stop SDD session then stop CAN Link Monitor, Raise TA and then attach CAN log and session file. Mention any further comments from customer that may be relevant. Send all data to DTS.

End