



V8 XJ Series/XK8

DATE 11/99
Amended 04/01

303-35

SERVICE

TECHNICAL BULLETIN

Difficult Cold Start – Normally Aspirated Engines – ECM Flash Reprogramming – Service Action S479

MODEL	1997-99 MY XK8 Range
VIN	1998-99 MY V8 XJ Series NA
	See text

Remove and destroy Bulletin 303-35, amended 03/00.
 Replace with this Bulletin.
 The reference to Service Action S472 has been removed since the service action has been cancelled.

Issue:

Since the launch of Service Actions S819 and S471 further developments in software have become available.

A new PDU disk is now available, labeled “XK8/XJ Series DRIVEABILITY supercedes S471” ‘S479’, which may be used to reprogram the ECM of the following vehicles:

- 1997-98 MY XK8 VIN 001036-020733
- 1998 MY V8 XJ Series VIN 812256-819771 **NORMALLY ASPIRATED ENGINES ONLY**
- 1999 MY XK8 VIN 031303-042775 **NORMALLY ASPIRATED ENGINES ONLY**
- 1999 V8 XJ Series VIN 853936-878717 **NORMALLY ASPIRATED ENGINES ONLY**

Note: 1998 XK8 VIN 020733-031302 and V8 XJ Series VIN 819772-853935 do not have ECMs that can be reflashed.
S479 does not apply to supercharged vehicles.

Customers may complain of difficulty in starting the engine, from cold, on vehicles within the above VIN ranges, under certain running conditions. In some instances a no-start condition may be reported. Many of the affected vehicles may have been reprogrammed on a previous occasion, under Service Action S819 or Service Action S471. Since Service Action S479 supersedes both Service Action S819 or Service Action S471 **do not perform** Service Action S819 or Service Action S471.

Note the following service guidelines:

1. On vehicles which have not been previously reprogrammed to S819 or S471, perform S479 at the next service opportunity, or as soon as can be arranged in case of a customer complaint.
2. On vehicles previously reprogrammed to S819, but not reprogrammed to S471 condition, perform S479 on all affected vehicles at the next service opportunity, or as soon as can be arranged in case of a customer complaint.
3. On vehicles previously reprogrammed to S471, perform S479 on a customer complaint basis ONLY in the case of additional cold start complaints.
4. On vehicles previously reprogrammed to S819 and S471, S479 should be performed on a customer complaint basis only.
5. On 1999 MY vehicles, S479 should be performed on a customer complaint basis only (since they already are at the S471 software level).

Note that Service Action S831 (technical bulletin 303-36) references this Service Action. It may be necessary to perform this S479 reflash on some XK8 vehicles which have been modified to remove a cracked EGR pipe according Service Action S831. This is fully detailed in technical bulletin 303-36.

Action:

PROCEDURE

⚠ CAUTION: Follow this PDU procedure in detail as described below. Any deviation from the procedure can result in a failure mode in the Engine Management System ECM that is irrecoverable.

Note: Check for a S479 sticker (Illustration 13) on the B-post of XK8 vehicles or near the left hood hinge on V8 XJ Series. Always perform a DCS claims search first to determine whether this service action has been performed on this vehicle. The warranty selection under the vehicle inquiry will give a listing of all claims against the vehicle. If S479 appears in the fault code field, do not perform this service action.

1. Open the hood and the luggage compartment lid.
2. Install fender covers and then remove the battery cover. Ensure that battery voltage is adequate for continued testing.

⚠ CAUTION: The engine coolant and air intake temperatures must be below 50°C (122°F) for the following operation. Do not attempt to trick the system by cooling the sensors. The sensors will return to actual temperatures during the process. This will abort the program and can ruin the ECM.

3. Connect the PDU to the vehicle and check for any stored DTCs in the ECM. Record any DTCs found and then delete them. Disconnect the PDU.
4. **On XK8 vehicles within VIN range 018108-020733 or 031303-042775 only**, remove the cover from the fuse box on the driver side of the fascia. **Remove fuse no. 6 (tan, 5 amps - sixth fuse from the top in the row of 9 fuses) for the Key Transponder Module (KTM).**

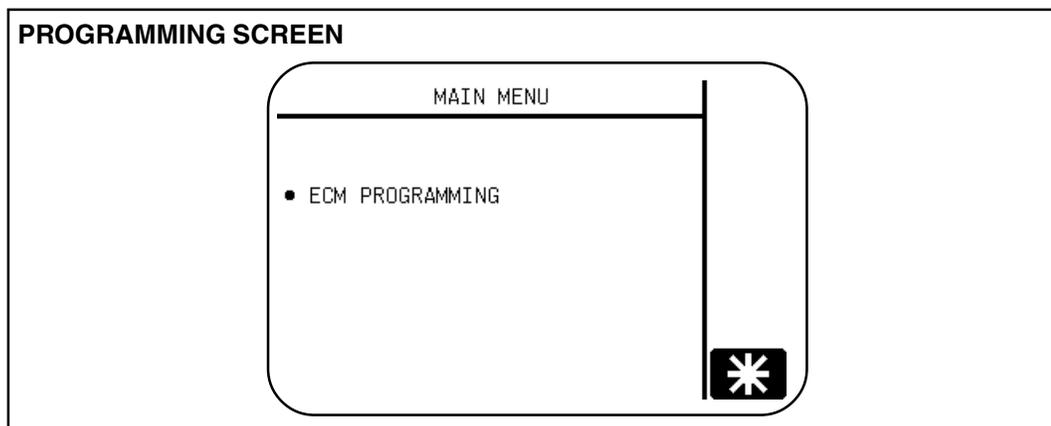


ILLUSTRATION 1

5. **On all vehicles**, connect the PDU to the base station and then insert the CD-ROM into the base station drive. Highlight **'ECM Programming'** and select the **check** icon (Illustration 1). (The Main Menu will appear with only one option, **'ECM Programming'**. Select this option and the **check** icon to continue.

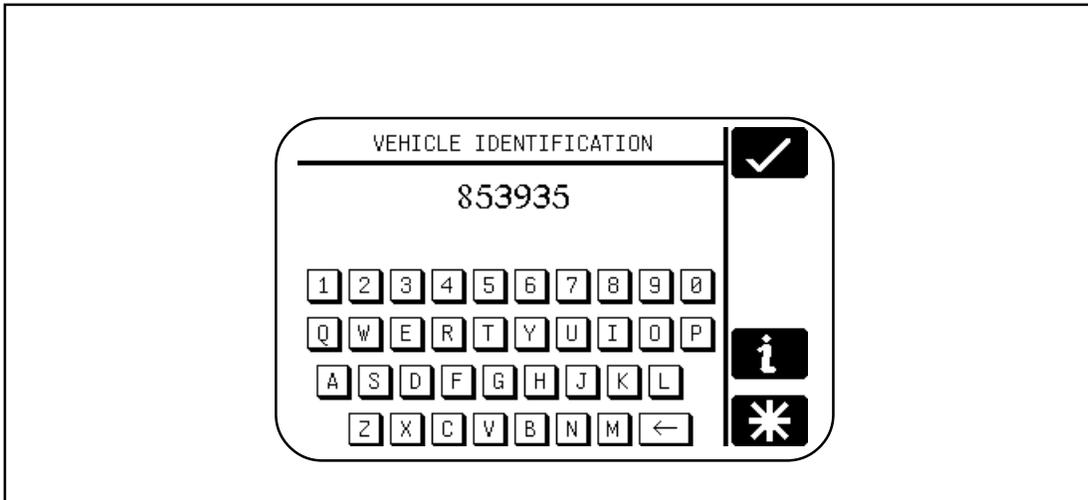


ILLUSTRATION 2

6. Enter the VIN and other vehicle information.

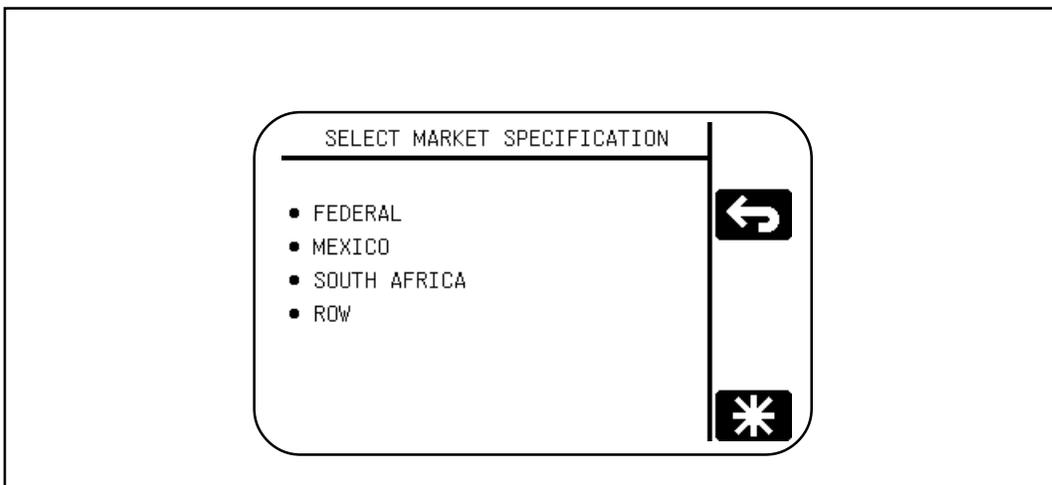


ILLUSTRATION 3

7. Select the market specification "FEDERAL" for US and Canadian vehicles.

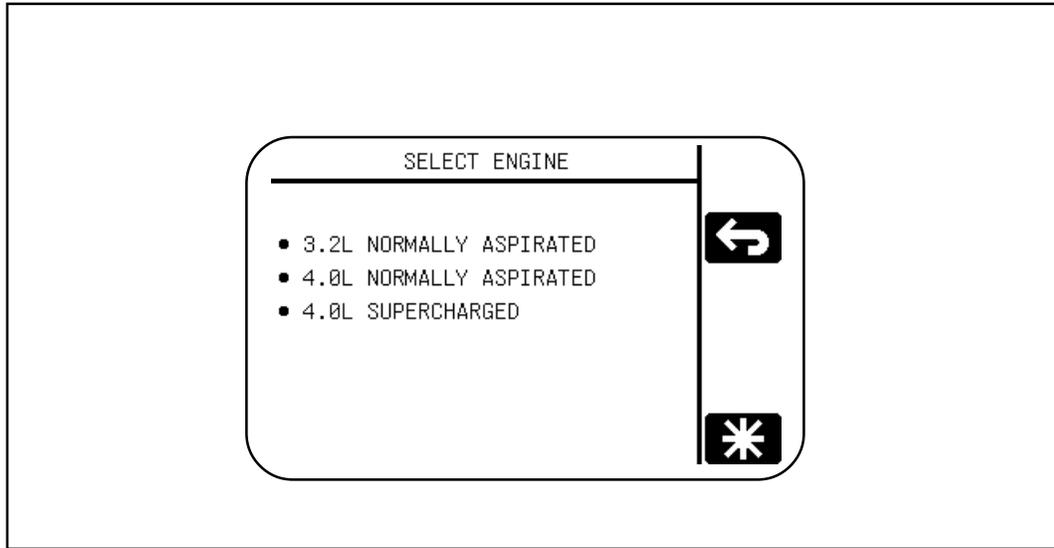


ILLUSTRATION 5

8. Select the engine variant "4.0L NORMALLY ASPIRATED". **Do not select supercharged.**

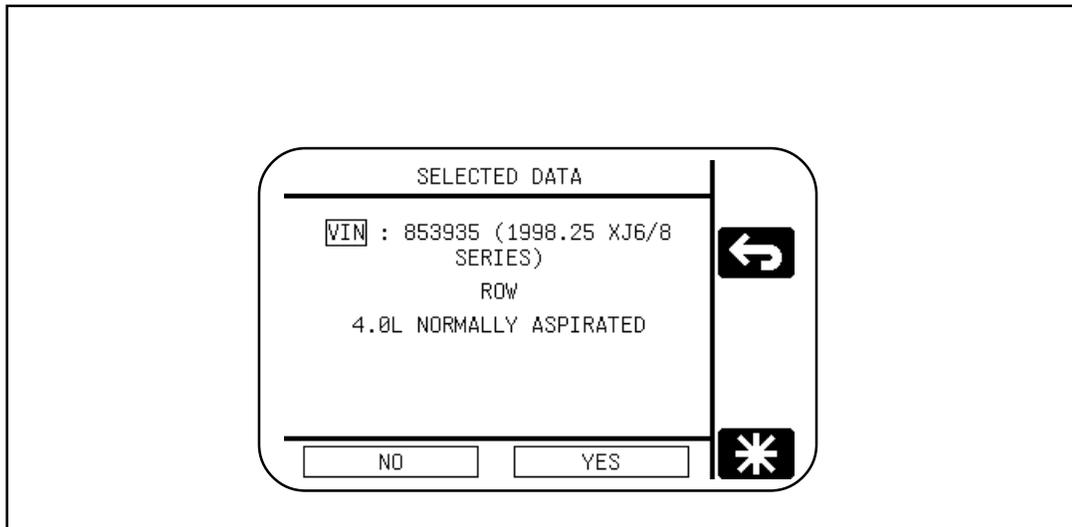


ILLUSTRATION 5

9. Confirm the selected data (example only)

6. When the ‘**Connect Cables**’ command (Illustration 3) appears, connect the MPA to the PDU.
Select the check icon. The PDU will initiate the MPA.

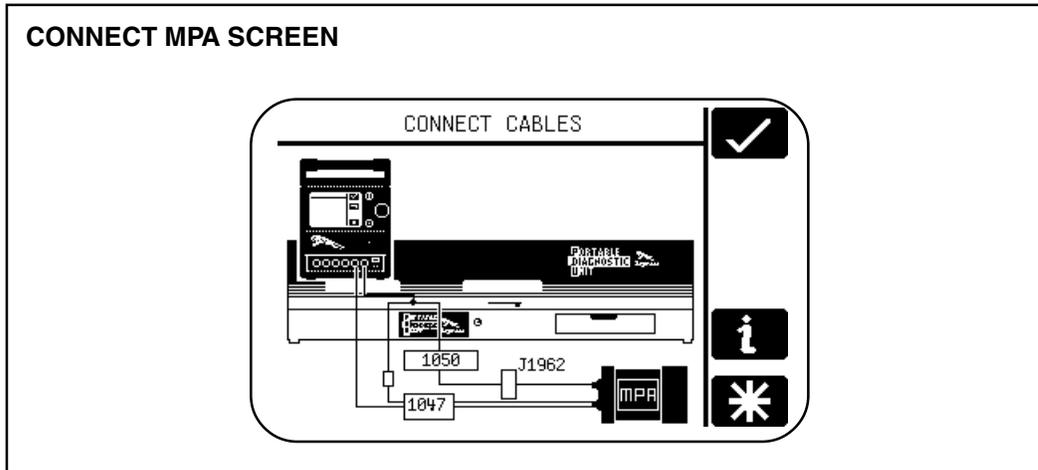


ILLUSTRATION 6

7. When the ‘**Connect Cables**’ command appears, connect the MPA/PDU to the vehicle diagnostic link connector (Illustration 5). The application then checks the Engine Coolant Temperature (ECT) and the Intake Air Temperature (IAT) to ensure they are both below 50°C before allowing the application to proceed.
If either of the two temperatures are above 50°C, the temperature would be displayed on the PDU screen along with the message, ‘**Both temperature sensors must read between 0 and 50 degree Celsius to continue; press TICK to abort.**’ (Tick = check icon). After aborting, the application would return to the Main Menu.

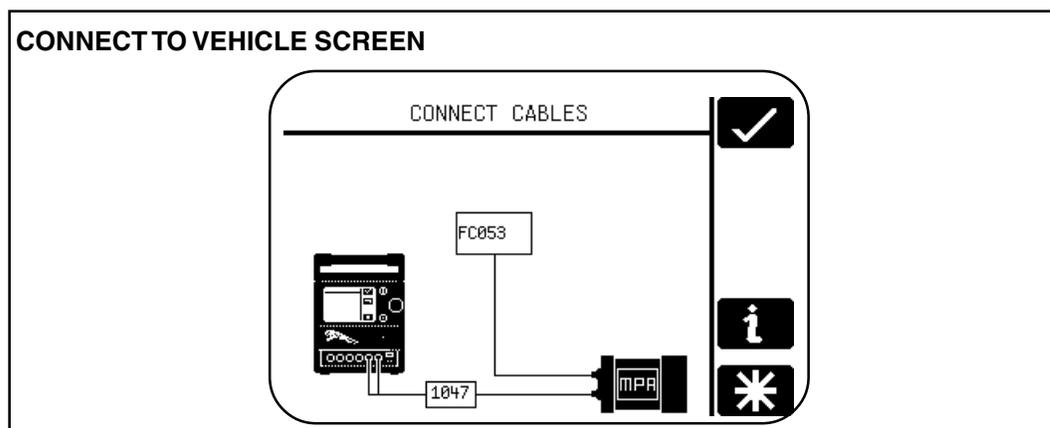


ILLUSTRATION 5

8. If both the ECT and the IAT are below 50°C, the application then performs a CAN system check, followed by a SCP system check. The application indicates when the tests have been passed. If an error is found, the application will display the message, **‘Emissions related fault codes are logged. Run Diagnostics’**, the application would then return to the Main Menu.

Note: The PDU screens indicate that the relays are black. However, on most vehicles the relays are brown.

Note: On 1999 MY vehicles, the software will skip the steps (9-15) that require removal of the fuse and relay. The following messages may appear: “Performing check sum test” and “Flash programming voltage set”. No action is required on the part of the operator. The PDU will continue the reflash programming process.

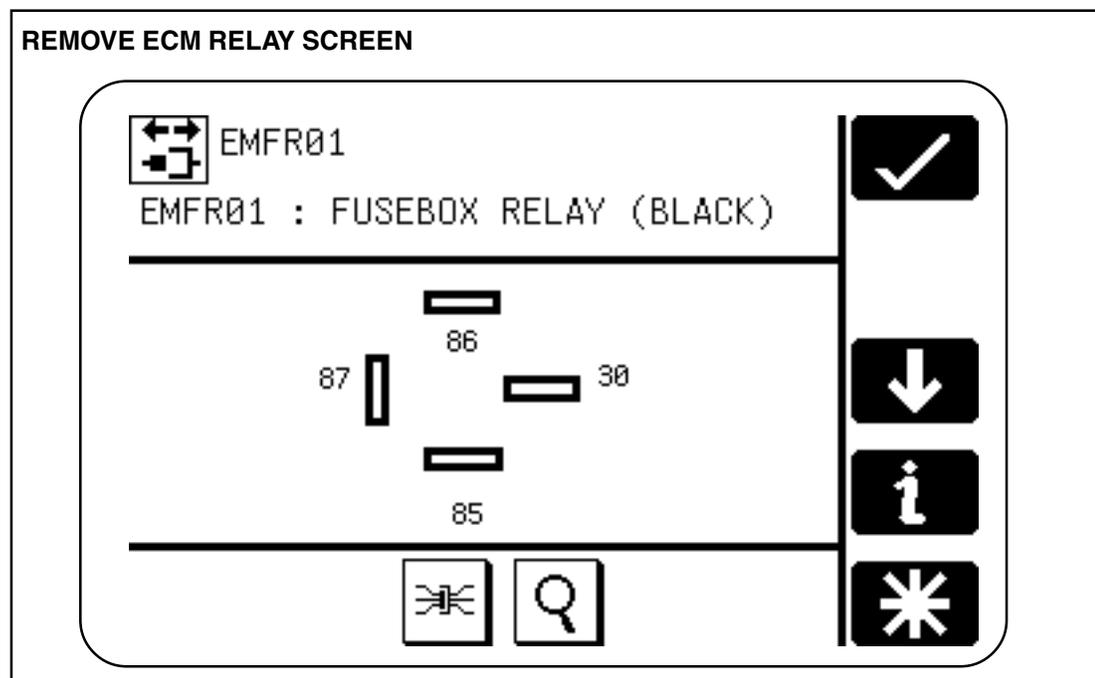


ILLUSTRATION 6

9. The application then indicates that the ECM relay (EMFR01) must be removed (Illustration 6). The Vehicle Data Viewer (VDV) display (select magnifying glass) will show the location of the relay. On XK8 vehicles, the relay is located directly in the engine management fuse box, in front of the ECM in the coolbox. On V8 XJ Series the relay is located in the engine management fuse box on the left front fender.

After removing the ECM relay, select the **check** icon to continue.

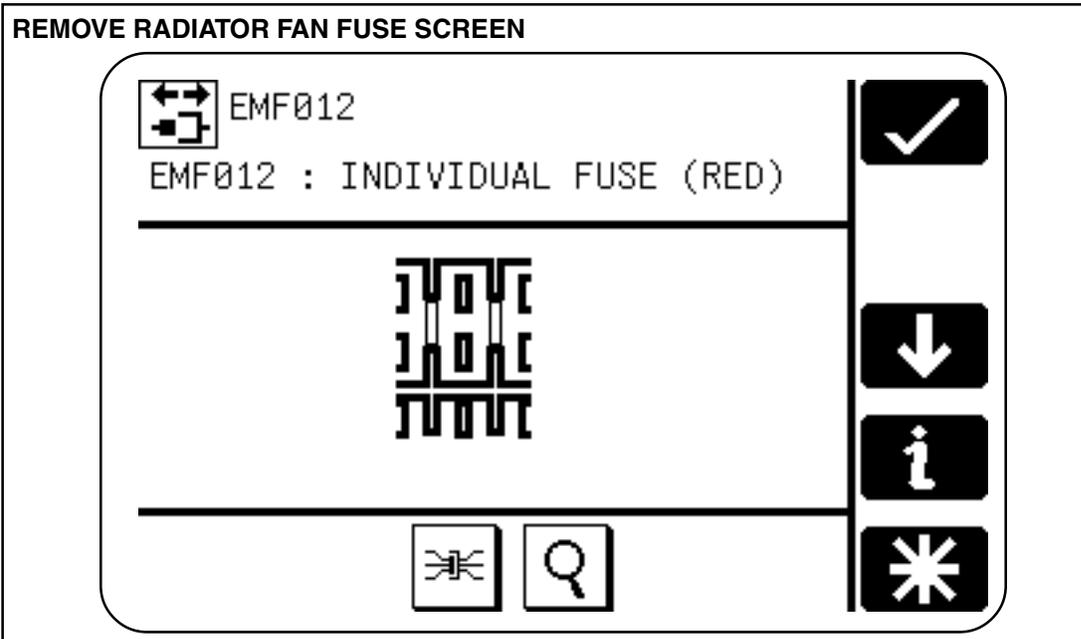


ILLUSTRATION 7

- The application then indicates that the fuse (EMF012 for XK8, EMF014 for V8 XJ Series) for the radiator fan module must be removed (Illustration 7). The VDV display will show the location of the fuse. Engine management fuse box fuse no. 12 (10 Amp) for XK8. Engine management fuse box fuse no. 14 (10 Amp) for V8 XJ Series.

After removing the fuse, select the **check** icon to continue.

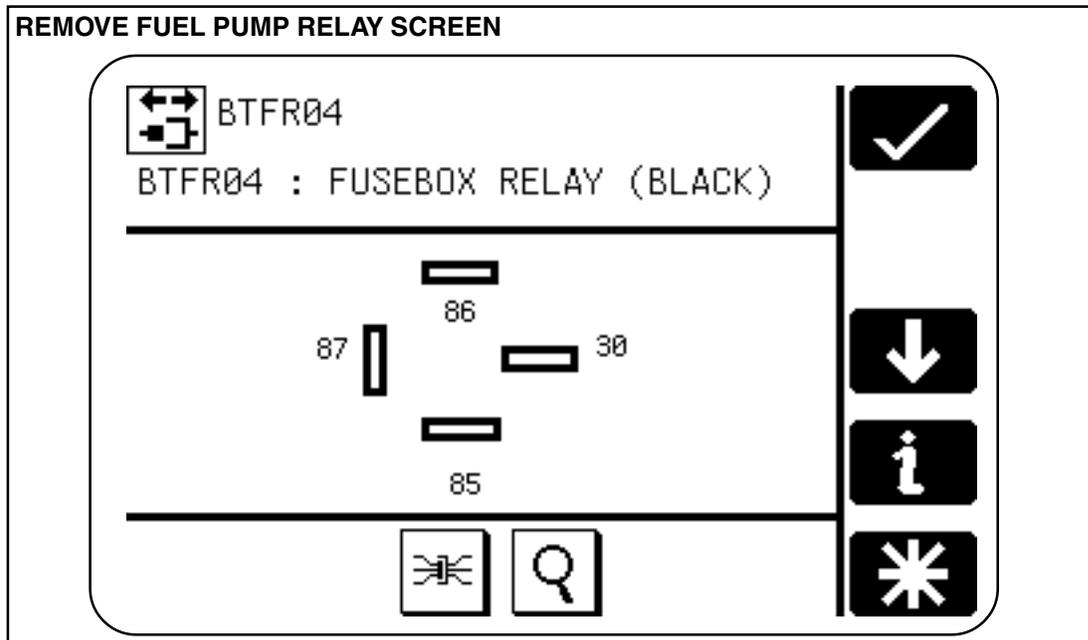


ILLUSTRATION 8

- The application then indicates that the fuel pump relay (BTFR04) must be removed (Illustration 8). The VDV display will show the location of the relay. The relay is located in the trunk fuse box.

After removing the fuel pump relay, select the **check** icon to continue.

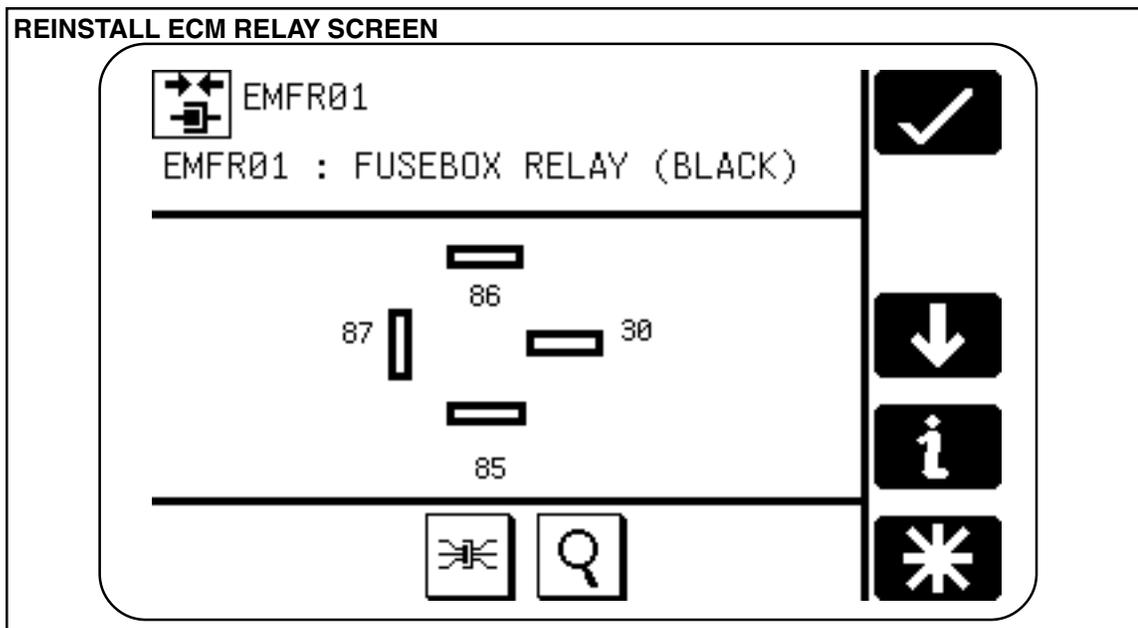


ILLUSTRATION 9

12. The application then indicates that the ECM relay (EMFR01) must be reinstalled (Illustration 9).

After reinstalling the ECM relay, select the **check** icon to continue.

13. The flash process now proceeds with the progress being displayed on the PDU screen. Checks of the download will be performed but will be displayed only if an error occurs. While the download is in progress the message, '**Download in progress. Do NOT touch PDU/MPA or vehicle**', is displayed. Disregard any failure messages that may display on the instrument pack.

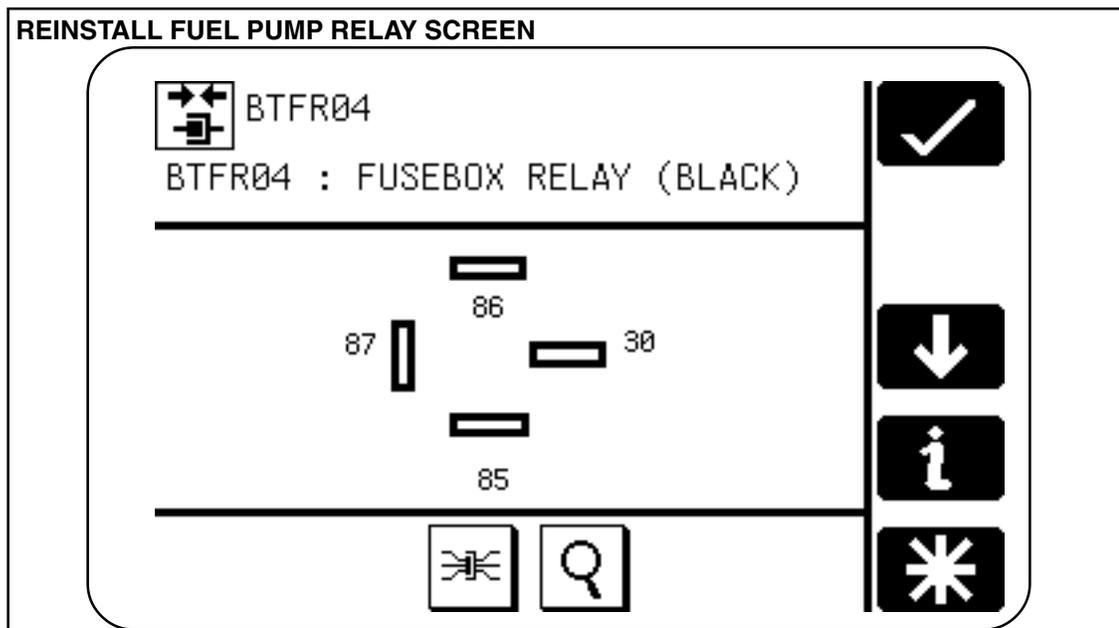


ILLUSTRATION 10

14. The application then indicates that the fuel pump relay BTFR04 must be reinstalled (Illustration 10).

After reinstalling the fuel pump relay, select the **check** icon to continue.

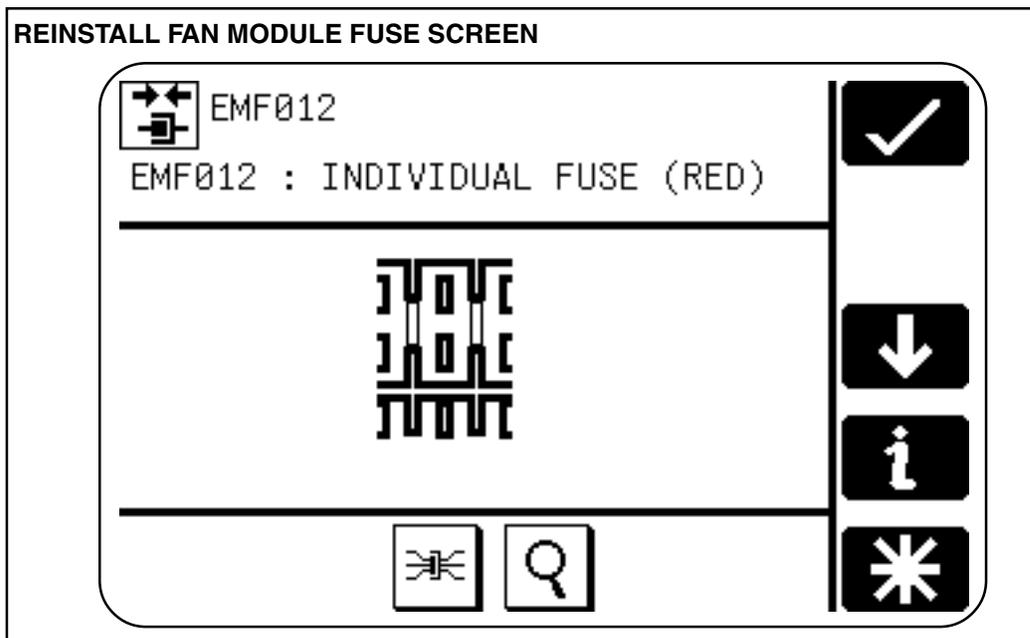


ILLUSTRATION 11

- The application then indicates that fuse for the radiator fan module (EMF012 for XK8, EMF014 for V8 XJ Series) must be reinstalled (Illustration 11).

After reinstalling the fuse for the radiator fan module, select the **check** icon to continue. At this time PECUS E may display on the instrument pack. Disregard the message.

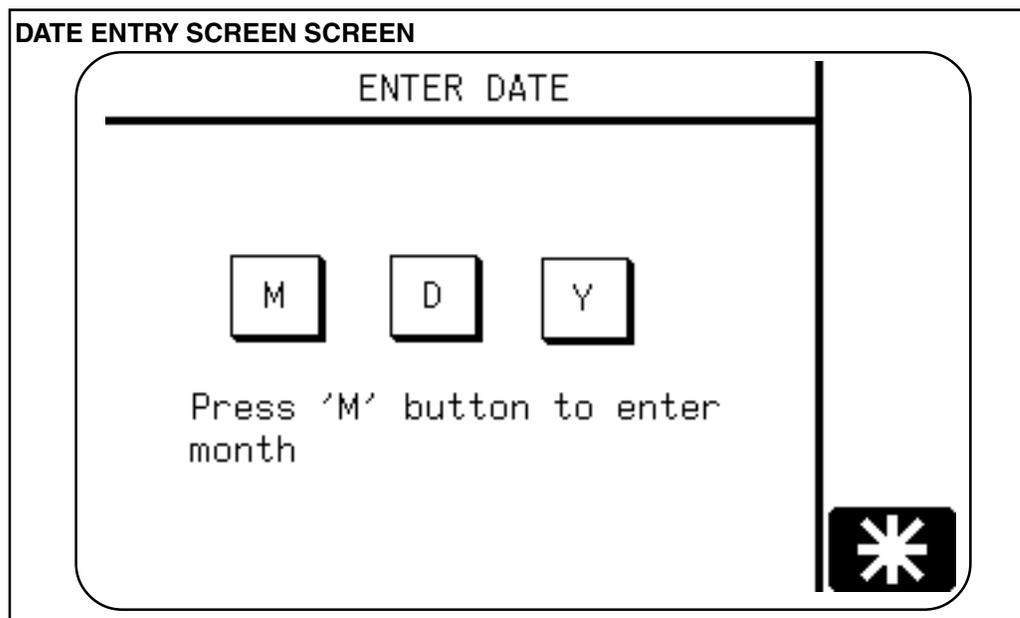


ILLUSTRATION 12

- Once the download is completed and verified, insert the date (Illustration 12), which must be entered in the Federal format, MM/DD/YYYY, using the full four figure year input (such as April 2, 1999 = 04/02/1999).
- The date together with the VIN number and the old and the new flash version numbers, read from the ECM, must be printed out and retained in the vehicle file. Connect the PDU to the multimedia PC as instructed. (The PC must have the PDU-PC Version 3.2 (JTP 628/2) or later software installed. Refer to Administration Bulletins.) Print the trace from the Multimedia PC. Then reconnect the PDU to the MPA and the vehicle as instructed.

MODIFICATION LABEL (ALL VEHICLES INCLUDING CALIFORNIA)	
	AUTHORIZED MODIFICATIONS
THE FOLLOWING MODIFICATIONS HAVE BEEN MADE:	
S479 DIFFICULT TO START	
REFLASH	
REPLACES S819/S471	
THESE MODIFICATIONS HAVE BEEN APPROVED, AS APPROPRIATE BY THE EPA, CARB, & NHTSA.	
DEALER NUMBER: <input type="text"/>	DATE: <input type="text"/>
CHANGE AUTHORITY: S479	
JAGUAR PLC CAMPAIGN	
PRINTED IN U.S.A.	

ILLUSTRATION 13

18. The display will warn the user that the MPA/PDU is about to drive the engine cooling fan. Select the **check** icon to continue. Check if the fan is operating.
19. The user will then be offered the ‘**YES/NO**’ option.
 If the ‘**NO**’ option is selected the power to the fan will be switched off . An instruction to check that the fuse is installed and functional will be displayed. The PDU will then return to the previous stage to check the fan.
 If the ‘**NO**’ option is selected a second time the user will then be prompted to run the ‘**Engine Management Diagnostics**’ routine.
 If the ‘**YES**’ option is selected this will turn off the fan and exit the process.
20. On XK8 vehicles, reinstall KTM fuse 6, if it was removed earlier in step 4.
21. The display will ask ‘**Does engine start?**’ to instruct the user to start the engine to confirm the installation of the fuel pump relay.
22. After a successful flash reprogramming the message, ‘**Please ensure the new emissions label is affixed to the vehicle**’, is displayed. Select the **check** icon to complete the process. Enter the dealer number and date and apply the label over a S 819 or S471 sticker if present, (Illustration 13, part no. S 479 STK) to the driver side B post below the door striker plate on XK8 vehicles, and next to the left hood hinge on V8 XJ Series. Be sure to apply the clear protective sheet over the label. On 1997 MY XK8 vehicles, do not cover the S831 sticker.
California Dealers: Fill out and place the salmon colored “Vehicle Emission Recall - Proof of Correction” form (Illustration 14, part no. S CAL RCL) in the vehicle glove compartment.
23. The application will then return to the Main Menu.

PROOF OF CORRECTION FORM (CALIFORNIA ONLY)	
 Vehicle Emission Recall - Proof of Correction	
Vehicle Identification Number	
License Number	Make
Year Model	Body Type
Manufacturer: <u>JAGUAR CARS</u> Recall Number _____ The above described vehicle has been repaired modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws .	
Dealer's Name	Address, City, State and Zip
Date	Dealership's Authorized Signature
x	

ILLUSTRATION 14

ERROR HANDLING

- A process that has failed is repeated twice before the application advises the user that there has been an error.
- The message, '**An error has occurred**', will be displayed. Select the **check** icon to proceed.
- Instructions for the correction of errors and the installation of the fuses and/or relays will be displayed.

ERROR PROCEDURES

Error Message	Description	Recovery Procedure
Corrupt message received	Indicates that either a bad digit or a bad message has been received	Check the connector, run the MPA, PDU and engine diagnostics before rerunning the procedure
Security error	Indicates that either security access is required or has been denied	Contact Jaguar Technical Hotline at 1(888) JAG-DLRS
Module comms. error	Indicates that no reply was received from the module	Check connector and retry. If this error occurs again run MPA, PDU and Engine Diagnostics before rerunning the procedure
General error	Indicates an error not described in this table	Run MPA, PDU and Engine Diagnostics before rerunning the procedure. If this error occurs again contact Jaguar Technical Hotline at 1(888) JAG-DLRS
MPA error	Indicates that a fault has occurred with the MPA	Run MPA self test diagnostic
Download number exceeded	Indicates that the maximum number of downloads has been exceeded	Contact Jaguar Technical Hotline at 1(888) JAG-DLRS

ERROR MESSAGE ON PDU SCREEN	STAGE	ACTION
<p>FAULT REPORT</p> <p>An error (Code=3D 9) has occurred, reconnect PDU/MPA and repeat the programming procedure, if an error re-occurs then contact Jaguar Dealer Technical Support.</p> <p>✓</p> <p>*</p>	<p>When this screen is displayed after stage 12, code 3D 9 indicates that the wrong relay was removed at step 10 or the wrong fuse at step 11.</p>	<p>Self-rectification procedure will begin. Wait and then follow the displayed instructions.</p>
<p>FAULT REPORT</p> <p>An error (Code=3D 6) has occurred, reconnect PDU/MPA and repeat the programming procedure, if an error re-occurs then contact Jaguar Dealer Technical Support.</p> <p>✓</p> <p>*</p>	<p>If displayed at step 14, code 3D 6 indicates that the KTM has not been disconnected or disabled at step 4A or 4B (where applicable).</p>	<p>Self-rectification procedure will begin. Wait and then follow the displayed instructions.</p>
<p>OPERATOR MESSAGE</p> <p>Executing rectification procedure TESTING Please wait</p> <p>*</p>	<p>Appears when reprogramming has been attempted 3 times without success.</p>	<p>Contact Jaguar Technical Hotline 1(888)JAG-DLRS</p>
<p>Code 12 (Not illustrated. Similar to above).</p>	<p>Code 12 appears if the ignition is left 'ON' during the Reprogramming process.</p>	

Parts Information:

DESCRIPTION

S 479 Modification Sticker
California Vehicle Emission Recall -
Proof of Correction form (salmon color)

PART NUMBER

S 479 STK
S CAL RCL

Warranty Information:

**Note: Service Actions S819 and S471 are now closed.
Service Action S479 does not apply to supercharged vehicles.**

Service Action S479

<u>VEHICLE</u>	<u>SUMMARY</u> <u>CODE</u>	<u>R.O.</u> <u>NUMBER</u>	<u>DESCRIPTION</u> <u>ALLOWANCE</u>	<u>TIME</u>
1997-98 MY XK8 VIN 001036- 020733 1999 MY XK8 VIN 031303- 042775 Model codes 2830, 2840 1998 MY V8 XJ Series VIN 812256- 819771 1999 MY V8 XJ Series VIN 853936- 878717 Model codes 2811, 2851, 2853	RP	18.91.22	Reprogram ECM and apply label	1.05 hrs.
1997-98 MY XK8 VIN 001036- 020733 1999 MY XK8 VIN 031303- 042775 Model codes 2830, 2840 1998 MY V8 XJ Series VIN 812256- 819771 1999 MY V8 XJ Series VIN 853936- 878717 Model codes 2811, 2851, 2853	RR	18.91.22 10.10.10	Reprogram ECM and apply label Drive in/Drive out time	1.05 hrs. 0.15 hrs.

Note: Always perform a DCS claims search first to determine whether this service action has been performed on this vehicle. The warranty selection under the vehicle inquiry will give a listing of all claims against the vehicle. If S471 or S819 appears in the fault code field, proceed as follows:

1. On vehicles which have not been previously reprogramming to S819 or S471, perform S479 at the next service opportunity, or as soon as can be arranged in case of a customer complaint.
 2. On vehicles previously reprogramming to S819, but not reprogramming to S471 condition, perform S479 on all affected vehicles at the next service opportunity, or as soon as can be arranged in case of a customer complaint.
 3. On vehicles previously reprogrammed to S471, perform S479 on a customer complaint basis ONLY in the case of additional cold start complaints.
 4. On vehicles previously reprogrammed to S819 and S471, S479 should be performed on a customer complaint basis only.
 5. On 1999 MY vehicles, S479 should be performed on a customer complaint basis only (since they already are at the S471 software level).
- If S479 appears in the fault code field, do not perform this service action.

CLAIM SUBMISSION PROCEDURE:

Warranty summary codes have been assigned to this service action in order to simplify claim submission. The dealership will be reimbursed the parts and labor time allowance as indicated.

DCS DEALERS

Submit claims using the appropriate summary code for the vehicle model and work performed. Follow standard campaign submission procedures.

NON-DCS DEALERS

Submit claims on the Recall Campaign Summary form W-25. Enter the appropriate summary code for the vehicle model and work performed in the Repair Code column. Do not use the W-1 warranty claim form.