



GROUP
CLI

MODEL
2012-2015MY
Rio (UB)

NUMBER
043

DATE
May 2018

TECHNICAL SERVICE BULLETIN

SUBJECT: A/C FAN CONTROL LOGIC IMPROVEMENT AND
COOLING FAN/COOLING FAN RESISTOR
INSPECTION OR REPLACEMENT

This bulletin provides the procedure to inspect, and if necessary, replace the cooling fan resistor and/or the cooling fan motor, and to upgrade the cooling fan control logic on certain Manual Temperature Control (MTC) equipped 2012-2015MY Rio (UB) vehicles, produced from August 7, 2011 through October 22, 2014. These vehicles may exhibit poor A/C system performance due an inoperative cooling fan, typically related to the vehicle operating in ambient temperatures below 32°F. Follow the procedure outlined in this bulletin to correct the condition.



File Under: <Climate>

Circulate To: General Manager Service Manager Parts Manager
 Service Advisors Technicians Body Shop Manager Fleet Repair

SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

Inspection Procedure:

* NOTICE

Before attempting the ECU upgrade Manual Mode ONLY, verify that the radiator cooling fan is operating as designed by following the inspection and/or test/repair procedures outlined in this bulletin.

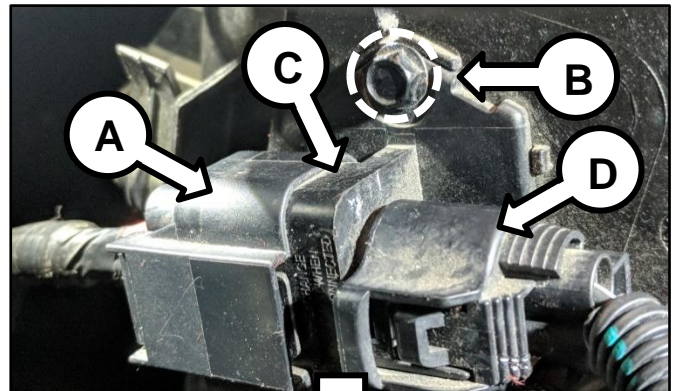
Reference the outline below to test the radiator fan motor operation. Refer to pages 3-4 for component testing information. Repair or replace parts as needed and as outlined on page 8 of this bulletin.

Using the KDS, actuate the fan on Hi and Low Speed, and confirm fan is operating.

- If the fan motor is operating as designed, proceed to upgrade the Air Conditioner Performance Logic Improvement software procedure outlined on pages 5-7.
- If the fan does not operate on Hi Speed, proceed to test the fan motor in Step 3a.
- If the fan does not operate on Low Speed, proceed to test the fan resistor in Step 1.
- Ensure the ground connection is ok by testing the connector outlined on Step 2c.

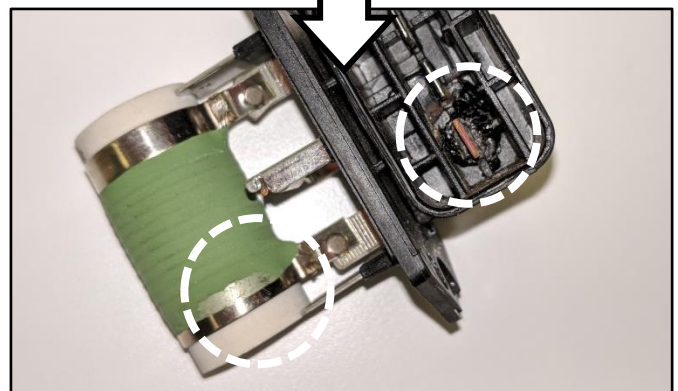
Test/Repair Procedure:

1. Locate and disconnect the radiator fan resistor connector (A) (EGGG42). Loosen the retaining bolt (B) and detach the fan resistor (C) without disconnecting the fan side resistor output connector (D).



* NOTICE

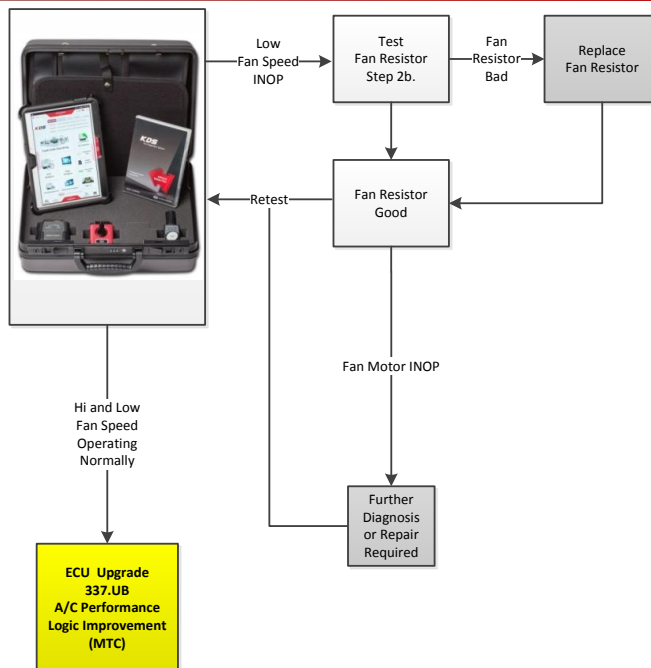
If the resistor appears to be burned after it is detached, then replace the burned resistor with a new part. (Fan resistor was removed to demonstrate a bad resistor sample.)



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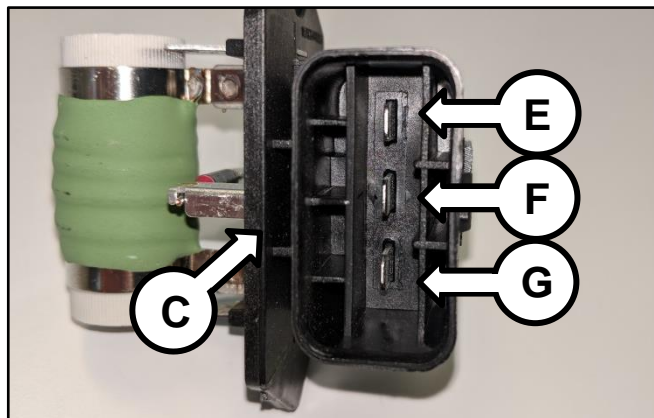
2a. If fan's Low speed was inoperative (INOP) using KDS, reference the fan resistor troubleshooting chart shown.



2b. Test the fan resistor by supplying ground (G) and 12V power separately to prong (E) first and then to prong (F).

Replace the fan resistor if inoperative. (Fan resistor was removed to better illustrate the connections.)

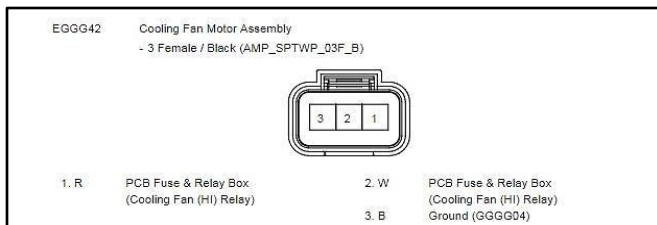
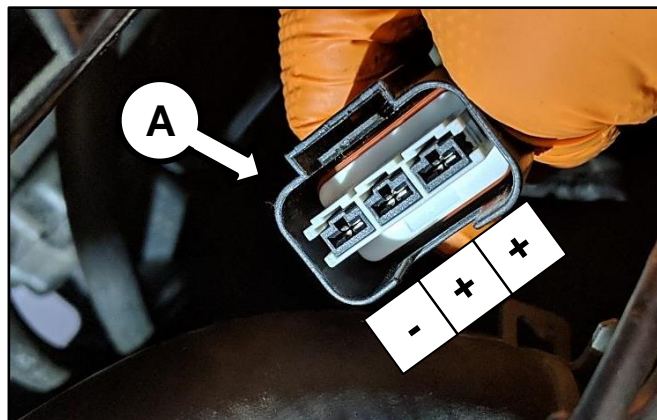
- (+) High Fan Speed (E)
- (+) Low Fan Speed (F)
- (-) Ground (G)



2c. Check the ground connection first by testing the resistor input connector (A) (EGGG42); then check high and low connections for voltage while activating each individually using the KDS.

* NOTICE

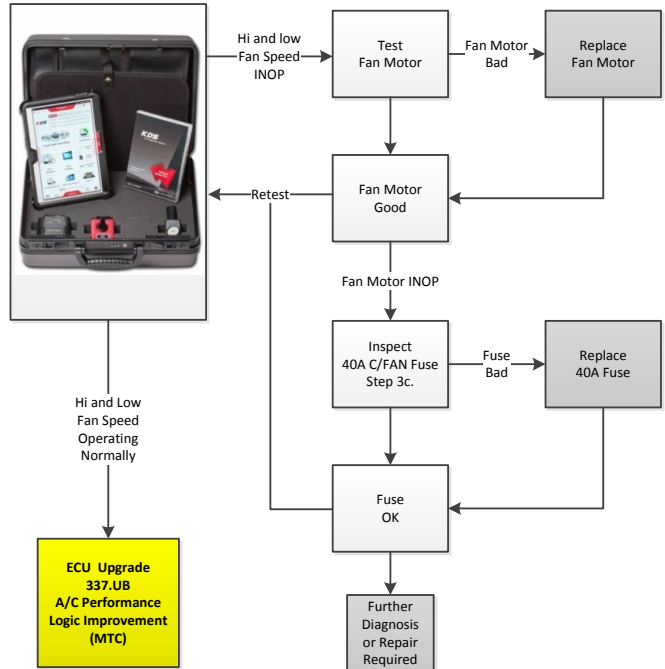
If there is no power or ground, further diagnosis or repair is required and not covered in this bulletin. File a separate claim if necessary.



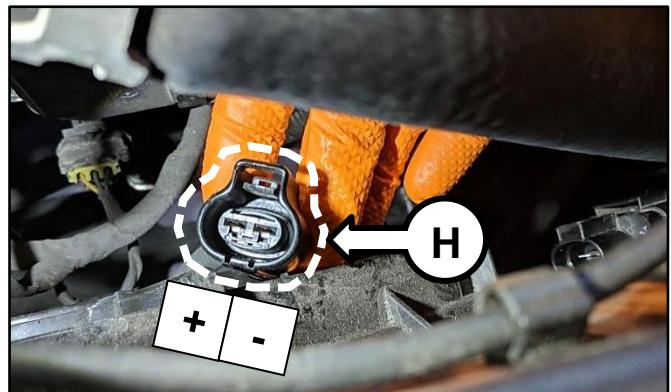
SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

3a. If fan's High speed was inoperative (INOP) using KDS, reference the fan motor troubleshooting chart shown.



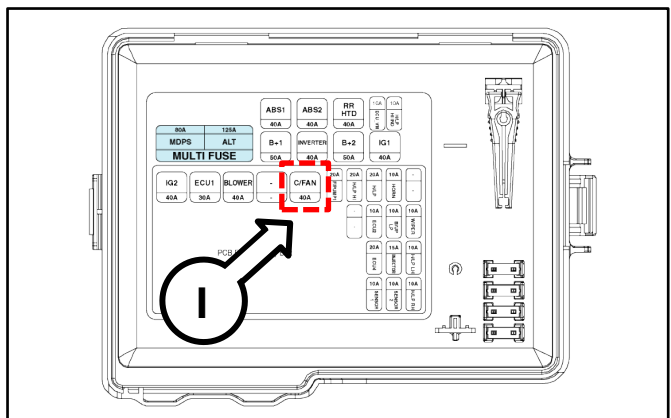
3b. Test the fan motor by disconnecting the resistor output connector (H). Supply Ground and 12V power to the fan connector and confirm operation of the fan motor. Replace the cooling fan motor if inoperative.



3c. Check the fuse by inspecting the “Engine Room Relay Box” C/FAN 40A fuse (I), as shown and replace it if needed.

*** NOTICE**

If there is no power to C/FAN fuse or fuse fails abruptly, then further diagnosis is required and not covered in this bulletin. File a separate claim if necessary.



SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

ECU Upgrade Procedure:

DO NOT USE AUTO MODE!

The ECU should be reprogrammed in Manual Mode **ONLY**
using the KDS download as described in this bulletin.

Upgrade Event Name
337.UB A/C PERFORMANCE LOGIC IMPROVEMENT (MTC)

* NOTICE

- A fully charged battery is necessary before ECU upgrade can take place. It is recommended that the Midtronics GR8-1299 system be used in ECU mode during charging. **DO NOT** connect any other battery charger to the vehicle during ECU upgrade.
- All ECU upgrades must be done with the ignition key in the 'ON' position.
- Be careful not to disconnect the VCI-II connected to the vehicle during the ECU upgrade procedure.
- **DO NOT** start the engine during ECU upgrade.
- **DO NOT** turn the ignition key 'OFF' or interrupt the power supply during ECU upgrade.
- When the ECU upgrade is completed, turn the ignition 'OFF' and wait 10 seconds before starting the engine.
- **ONLY** use approved ECU upgrade software designated for the correct model, year.

ROM ID INFORMATION TABLE:

Upgrade Event #337

Model	EM	TM	IMMO	ECU P/No.	ROM ID	
					Previous	New
UB	ALL	ALL	-	97250 1W060 97250 1W061	FF 08 09 0A 0B 0C	20

To verify the vehicle is affected, be sure to check the Calibration Identification of the vehicle's ECM ROM ID and reference the Information Table as necessary.

Manual Mode ECU Upgrade Passwords

Menu	Password
337.UB MTC : 97250 1W060	1061
337.UB MTC : 97250 1W061	

SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

* NOTICE

Prior to performing the ECU upgrade, be sure to check that the KDS is fully charged.

1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

* NOTICE

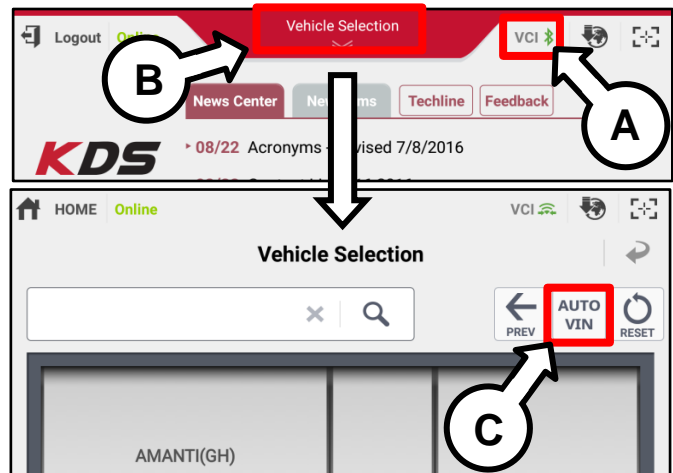
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



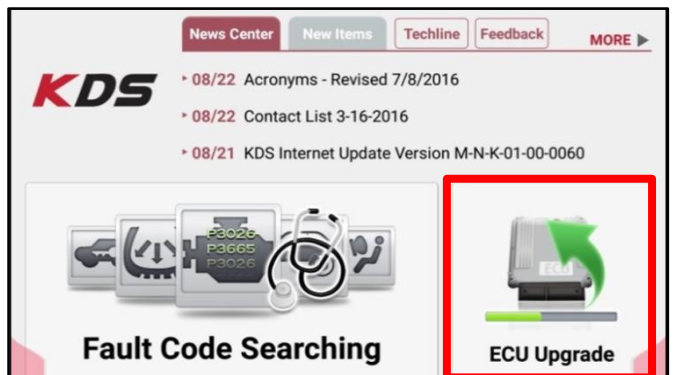
2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.



3. Confirm communication with VCI (A) and then configure the vehicle (B) using the **AUTO VIN** (C) feature.



4. Select **ECU Upgrade**.



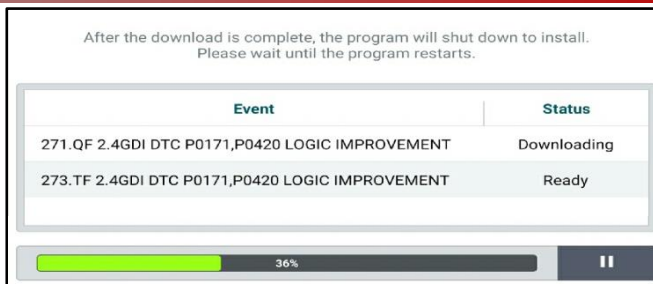
SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #337**.

* NOTICE

The vehicle must be identified in Vehicle Selection to download an Event for that vehicle.



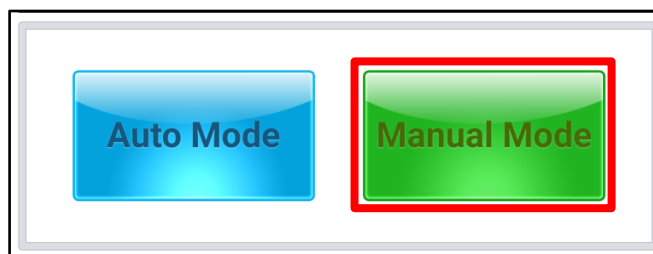
KDS screenshot shown above is for demonstration purposes only. Events shown in screenshot are not applicable to this bulletin.

6. Select **Manual Mode**.



CAUTION

Do **NOT** attempt to perform in Auto Mode. Follow the instructions given on the KDS in Manual mode.



7. Select the **AIRCON** system under the System selection menu. Select **Upgrade Event #337** and select **Upgrade** to continue.
8. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 5, and select **OK**.
9. Enter the appropriate password from the Manual Mode password table on Page 5 and select **OK**.
10. The upgrade will begin and the progress of the upgrade will appear on the bar graph.
11. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.
12. Once the upgrade is complete, touch **OK** to finalize the procedure.
13. When prompted, select **YES** to check for Diagnostic Trouble Codes (DTC) and erase any DTCs stored such as EPS, ESC, and TPMS that may have been set during the upgrade.
14. Start the engine to confirm proper operation of the vehicle.




SUBJECT:

A/C FAN CONTROL LOGIC IMPROVEMENT AND COOLING FAN/COOLING FAN RESISTOR INSPECTION OR REPLACEMENT

AFFECTED VEHICLE RANGE:

Model	Production Date Range
Rio (UB)	August 8, 2011 through October 22, 2014

REQUIRED PART:

Part Name	Part Number	Figure
Fan Resistor	25385 4L000	
(5-Door) Radiator Fan Motor 140W	25386 1R140	
(4-Door) Radiator Fan Motor 180W	25386 1R220	

WARRANTY INFORMATION:

N Code: I42 C Code: ZZ3

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
W	97250 1W060	0	Inspection and MTC Logic Improvement	97250F06	0.3 M/H	N/A	0
	25386 1R140	1	Inspection, Diagnose, Cooling Fan Replacement, and MTC Logic Improvement	97250F07	1.0 M/H	N/A	0
	25386 1R220						
	25385 4L000	1	Inspection, Diagnose, Fan Resistor Replacement, and MTC Logic Improvement	97250F08	0.5 M/H	N/A	0

NOTE: For the reimbursement of 1 Quart of coolant use sublet code 'X1' with a maximum amount of \$10.70.