	GROUP <b>CHA</b>	MODEL <b>2020MY Rio (SC)</b>
	NUMBER <b>109</b>	DATE <b>January 2021</b>

## TECHNICAL SERVICE BULLETIN

### SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)

This bulletin provides the procedure to improve the logic of the Electronic Power Steering (EPS) software on some 2020MY Rio vehicles produced September 28, 2020 through November 21, 2020, which may exhibit reduced steering assist and MIL ON with DTC(s) C125901 and/or C111201. To correct this concern, apply the improved logic to the Electronic Power Steering (EPS) system using the KDS ECU Upgrade function as described in this bulletin. For confirmation that the latest reflash has been applied to a vehicle you are working on, verify the ROM ID using the table on page 3 of this bulletin. Before conducting the procedure, verify that the vehicle is included in the list of affected VINs.

**DTC Description:**

**C125901 - Steering Angle Sensor – Electrical**

**C111201 - Sensor Source Voltage**



Kia Diagnostic System (KDS)

### ★ NOTICE

**A Service Action is a repair program without customer notification that is performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.**

**Repair status for a VIN is provided on WebDCS (Service → Warranty Coverage → Warranty Coverage Inquiry → Campaign Information). Not completed Recall / Service Action reports are available on WebDCS (Consumer Affairs → Not Completed Recall → Recall VIN → Select Report), which includes a list of affected vehicles.**

**This issue number is SA456.**

Printed TSB copy is for reference only; information may be updated at any time.  
Always refer to KGIS for the latest information.

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

SUBJECT:

## SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)

### ECU Upgrade Procedure:

To correct this condition, the ECU should be reprogrammed using the KDS download, as described in this bulletin.

#### Upgrade Event Name

516. SC MDPS MIL ON DTC JUDGMENT LOGIC (C125901, C111201)


### \* NOTICE

- A fully charged battery is necessary before ECU upgrade can take place. It is recommended that a battery charger is used in ECU mode during reflashing or the use of a fully charged jump starter box connected to the battery.
- DO NOT connect any other battery charger to the vehicle during ECU upgrade.
- Ensure the KDS or GDS is sufficiently charged prior to reflash.
- 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 and model year.

### ⓘ IMPORTANT

It is recommended to ALWAYS check the Electronic Parts Catalog (EPC) to locate the ECU Part Number respective to Auto/Manual Mode ROM IDs. DO NOT reference the parts label affixed to the ECU.

### \* NOTICE


Before attempting an ECU upgrade on any Kia model, make sure to first determine whether the applicable model is equipped with an immobilizer  security system. Failure to follow proper procedures may cause the PCM to become inoperative after the upgrade and any claims associated with this repair may be subject to chargeback.

SUBJECT:

SERVICE ACTION: MDPS LOGIC UPDATE  
FOR DTC C125901 & C111201 (SA456)

ROM ID INFORMATION TABLE:

Upgrade Event #516

Model	SYS	IMMO 	ECU P/No.	ROM ID	
				Previous	New
SC	EPS (Electronic Power Steering)	Yes	56340-H9000	1.05	1.06

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.

**\* 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**

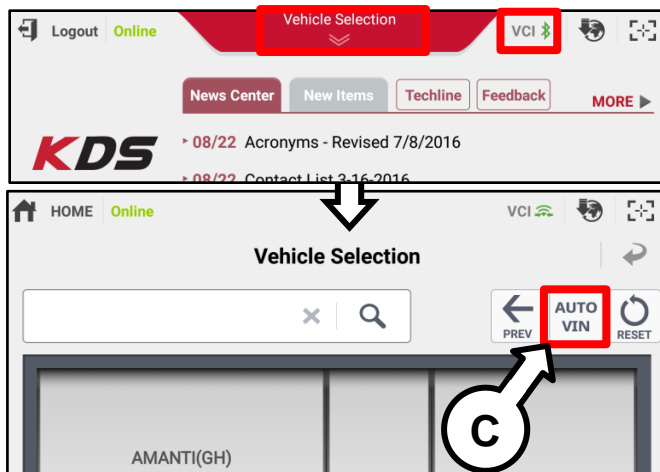
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.



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

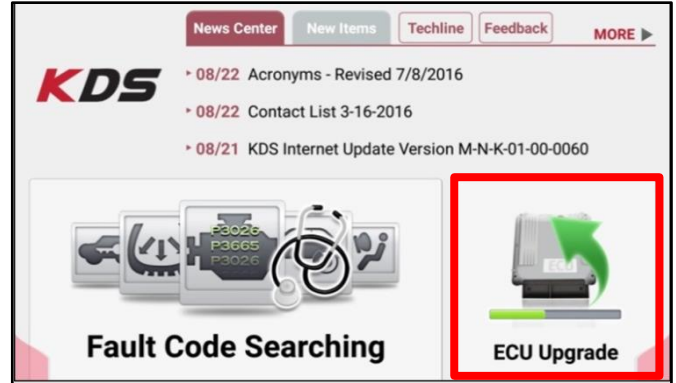


3. Confirm communication with VCI (A) and then configure the vehicle (B) using the **AUTO VIN** (C) feature.



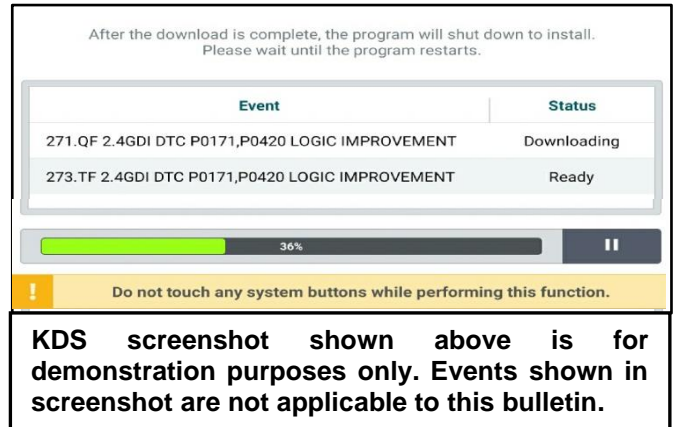
**SUBJECT: SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)**

4. Select **ECU Upgrade**.



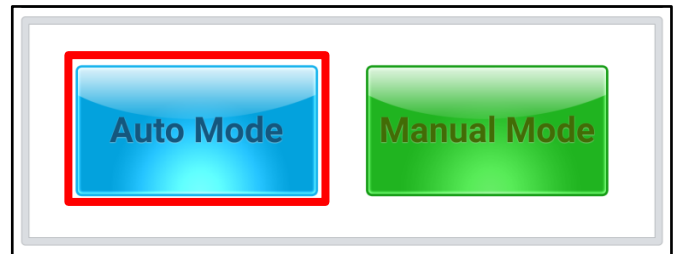
5. The KDS will check the server for recently uploaded Events and then automatically download **Upgrade Event #516**.

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



6. Select **Auto Mode**.

**CAUTION**  
 Do NOT attempt to perform a Manual Mode upgrade UNLESS Auto Mode fails. Always follow the instructions given on the KDS in either Auto or Manual mode.



7. Select the **EPS** system under the System selection menu.

Touch **ID Check** (D) and confirm that the latest update is available.

Select **Upgrade Event #516** and select **Upgrade** to continue.



SUBJECT:

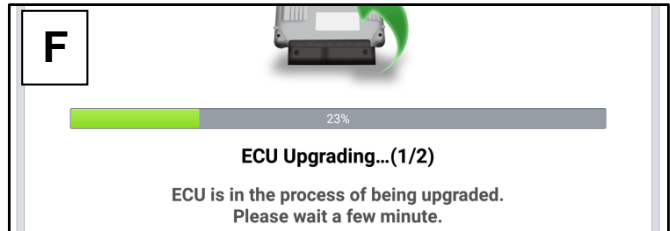
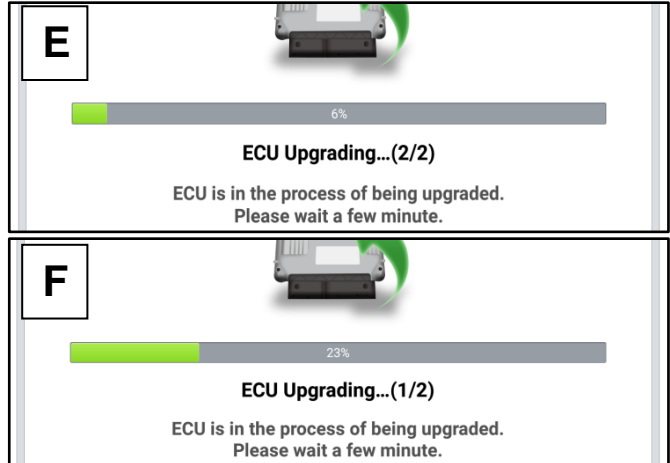
## SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)

8. The ECU upgrade will begin and the progress of the upgrade will appear on the bar graph. Upgrade part (1/2) (E) will download the upgrade event to the VCI-II. Upgrade part (2/2) (F) will upgrade the ECU.



### CAUTION

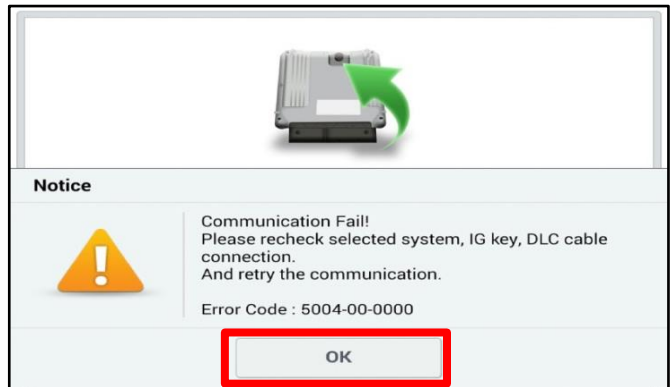
**Do not touch the system buttons (like 'Back', 'Home', 'etc.')** while performing ECU Upgrade.



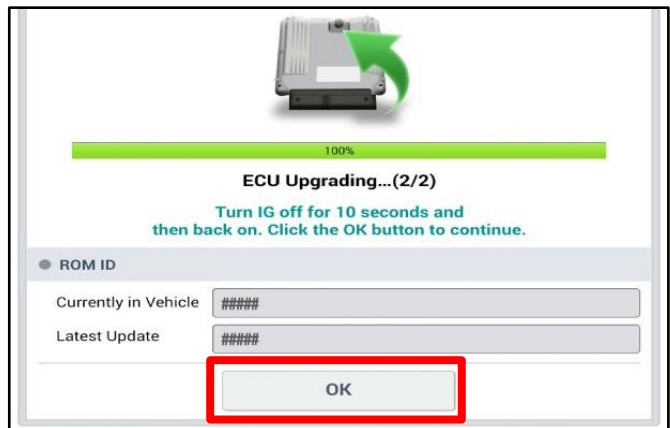
9. If a "Communication Fail" screen appears, verify that the VCI-II and KDS are communicating properly. Touch **OK** and restart the procedure from step 4.

### ★ NOTICE

**If an error notice continues to appear or if the upgrade cannot be performed, DO NOT disconnect the KDS/VCI-II. Contact GIT America Help Desk at (888) 542-4371 or Techline.**

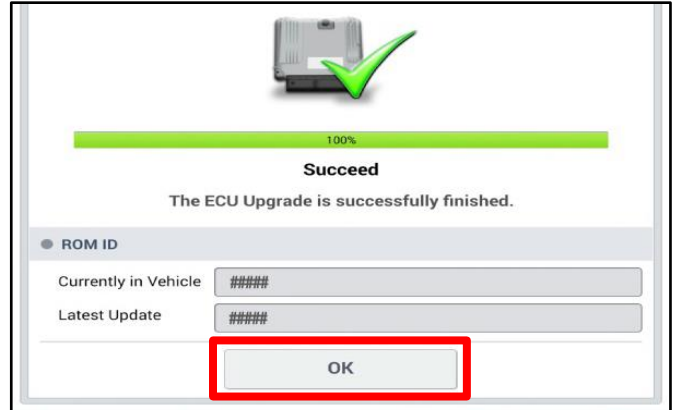


10. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.

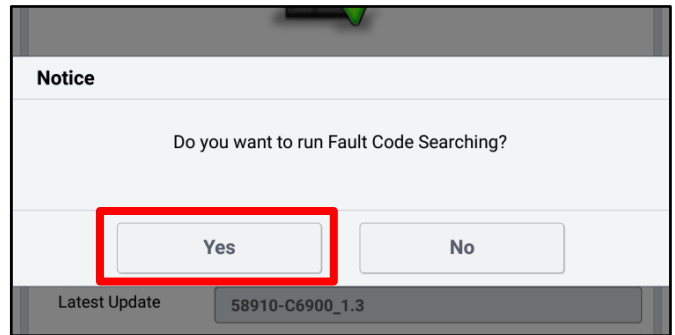


**SUBJECT: SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)**

- 11. Once the upgrade is complete, touch **OK** to finalize the procedure.



- 12. 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.



- 13. Start the engine to confirm proper operation of the vehicle.



SUBJECT:

## SERVICE ACTION: MDPS LOGIC UPDATE FOR DTC C125901 & C111201 (SA456)

### Manual Upgrade Procedure:

#### ★ NOTICE

**The manual upgrade should ONLY be performed if the automatic upgrade fails.**

**If the automatic upgrade fails, turn the ignition OFF for about 10 seconds then place it back in the ON position to reset the control unit BEFORE performing manual upgrade.**

**See table below for Manual Mode passwords.**

#### Manual Mode ECU Upgrade Passwords

Menu	Password
SC MDPS: 56340-H9000	9000

1. Within the ECU Upgrade screen displayed, select **Manual Mode**.
2. Select the **EPS** system under the System selection menu. Select **Upgrade Event #516** and select **Upgrade** to continue.
3. Select the appropriate control unit part number with reference to the ROM ID Information Table on page 3 and select **OK**.
4. Enter the appropriate password from the Manual Mode password table above and select **OK**.
5. The upgrade will begin and the progress of the upgrade will appear on the bar graph.
6. When instructed on the KDS, turn the ignition **OFF** for ten (10) seconds then back on. Touch **OK** to continue.
7. Once the upgrade is complete, touch **OK** to finalize the procedure.
8. 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.
9. Start the engine to confirm proper operation of the vehicle.



SUBJECT:

**SERVICE ACTION: MDPS LOGIC UPDATE  
FOR DTC C125901 & C111201 (SA456)**

## AFFECTED VEHICLE RANGE:

Model	Production Date Range
Rio (SC)	September 28, 2020 to November 21, 2020

## WARRANTY INFORMATION:

**N Code: I3A C Code: ZZ3**

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
V	56340 H9000	0	(SA456) MDPS Logic Improvement	200M14R0	0.3 M/H	N/A	0

**\* NOTICE**

**VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA456 when accessing the WebDCS system.**

