

January 16, 2019

USA

Injection Active Test Remedy

Engine/Hybrid System

Engine Control

Section

All current vehicles with FKS engine

APPLICABLE VEHICLES

| 2018-2020 | RC300 | 2018-2020 | LS500 |
|-----------|--------|-----------|--------|
| 2018-2020 | GS300 | 2018-2020 | NX300 |
| 2017-2020 | GS350 | 2018-2020 | IS300 |
| 2016-2017 | GS200T | 2016-2020 | RX350 |
| 2016-2017 | IS200T | 2019-2020 | ES350 |
| 2019-2020 | UX200 | 2016-2017 | RC200T |

CONDITION

The current engine active test "Control the Injection Mode" is not operating as desired when controlling the direct injectors manually on 2GR-FKS engines.

When direct injection is started and then stopped using the active test, current ECU logic does not turn off the direct injectors and can cause DTCs P017200, P017500 and P0160300.

To avoid this condition, technicians should raise engine RPM when changing back and forth between the Direct Injection and Port Injection active tests.

Use the recommended procedure below to avoid this concern while testing injection mode of FKS equipped vehicles.

NOTE: If the active test is used multiple times without using this procedure to raise engine RPM, it may be necessary to reset learning values for fuel trim and Air to Fuel ratio before returning vehicle to customer.

RECOMMENDATIONS

- Using Techstream navigate to Active Test \rightarrow Control the Injection Mode.
- Verify the Execute conditions are met to perform the active test.

NOTE: Vehicle must be stopped and the engine idling, Coolant Temperature must be above 176F (80C).



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RECOMMENDATIONS

| nile aux+58088 | DTC Mo Diagnos | nitors are Comple stic Code: ed Generic | te. View Monitors | | |
|--------------------------|-------------------|---|--|------|---|
| in Product | Code | Description | Action Test Voluctions (C307-D1) | _ | |
| e Codes | None | | Activity state addression (23472-011) | | |
| | 8 | | Select desired Active Test from the List. | | and the second second |
| a List | | | | | Description: |
| | | | Control the Intake VVT OCV Duty Ratio Bank | ^ | This test will activate the injection control for A |
| re Tost | | | 2 | | Port and Direct injection. This test allows for |
| _ | | | Control the Exhaust VVT OCV Duty Ratio | | switching between Port and Direct injection |
| nitor | | | Control the Exhaust VVT OCV Duty Rate | | v |
| | | | Bank 2 | | Available commands & avaacted results |
| ility | | | Activate the Vacuum Pump | 1 | Available commands a expected results. |
| | | | Activate the VSV for Vent Valve | | Port Port injection |
| | | | Control the Target Fuel Pressure Offset | 1_ | Direct Direct injection |
| Jaca Lisk | 8 | | Control the Voltage of Alternator | | |
| | | Contract of the local division of the local | Control the Injection Mode | п | |
| | 1 | | Control the Select Cylinder Fuel Cut | | Franks and the |
| | | | Control the All Cylinders Fuel Cut | | Execute conductri |
| | | | Check the Cylinder Compression | | Operate with the Vehicle stopped and Engine |
| | | | D-4S (Injection Volume) | 1 | Context Temperature must be above 1705 |
| | | | D-4S (A/F Control) | | (80C) |
| | | | D-4S (Fuel Cut) | ¥ | 4 |
| | | | Check if you want to execute the active test | t on | the Dual Data List screen |

• After selecting the criteria desired for monitoring, the following screen will appear:

NOTE: When selecting a Data List for the Injection Mode Active test be sure to have the following parameters in the **primary data list** to aid in diagnosis. You may have to add the following to the primary data list on Techstream version 13.30.018.

- o Injection Mode
- STFT (for all banks)
- LTFT (for all banks)
- o Misfire count for all cylinders and individual cylinders
- Misfire margin
- Knock correct learn value

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• Utilize the active test control window to command direct injectors or port injectors to "Start" and "Stop."

| | | |
|--------|------|--------|
| Direct | Port | Either |
| | | |

Key Point:

When switching the direct injection active test, to port injection active test, raise engine RPM

to 2,000 RPM prior to pressing "Start" and for 30 seconds after as shown. Perform the same when switching from port injection active test to direct injection

| Direct | Port | Fither |
|-------------|---------------|------------|
| | | |
| 3 🖵 🤉 | tart start | top |
| | | top |
| | | |
| 2) Deles er | mine DDM to 2 | 000 hofers |



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RECOMMENDATIONS

 Utilizing the data list confirm the switch occurs when commanded with the Injection Mode parameter



LINK REFERENCES

This Tech Tip does not contain any link references

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