Clear DTC Information (0x14)

Purpose: **Clear Diagnostic Information service is used by the Tester to clear diagnostic information in one or multiple servers memory**

Introduction

- **ECU sends positive response when the Clear Diagnostic Information service is completely processed with one or more DTC.**
- **ECU sends positive response even if no DTCs are stored in the server. If a server supports multiple copies of DTC status information in memory (e.g. one copy in RAM and one copy in EEPROM) the server shall not clear the copy used by this service and it may read other services to clear**

Sub-functions

Note: Clear DTC Information (0x14) service doesn't has sub-functions

Clear DTC information (0x14) can be cleared the following data:

- **DTC status byte**
- **Captured DTC snapshot data (DTC Snapshot Data)**
- **Captured DTC extended data (DTC Extended Data)**
- **Other DTC related data such as first/most recent DTC, flags, counters, timers, etc. specific to DTCs, Any DTC information stored in an optionally available DTC mirror memory in the server that is not cleared by this service**

Request Frame:

1. **Service Id**
2. **Group of DTC or FF FF FF**

Group of DTC:

This parameter contains a 3-byte value indicating the group of DTCs or the particular DTC to be cleared. This is optional data

Positive Response Frame:

1. **Service Id (40 Plus)**

Negative Response Frame:

1. **Negative Response (7F)**
2. **Service Id**
3. **NRC Code**

There are no data-parameters used by this service in the positive response message

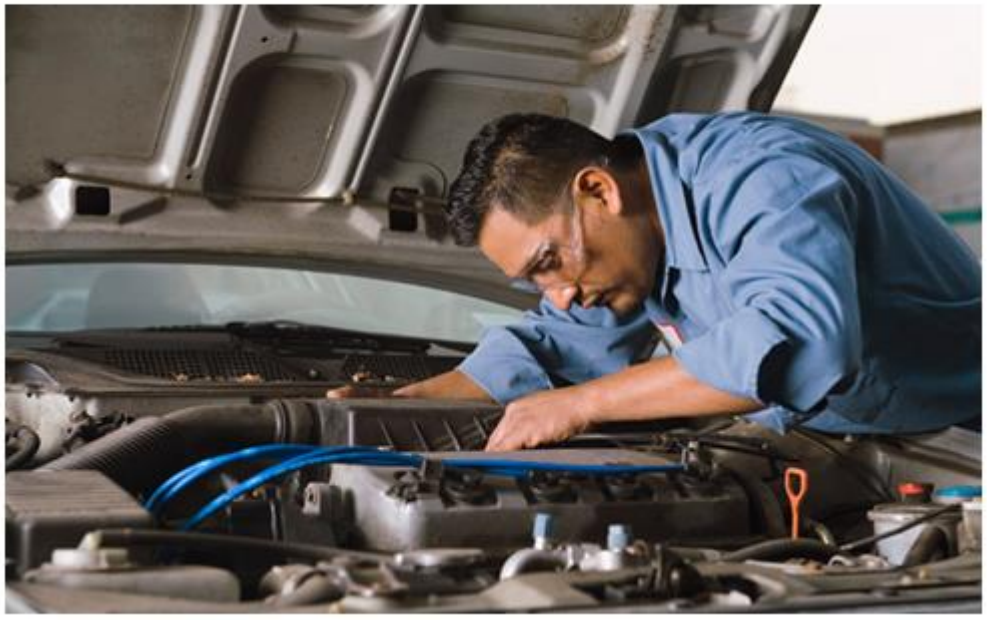
Understanding on Clear DTC Information !!

Assumption scenario:

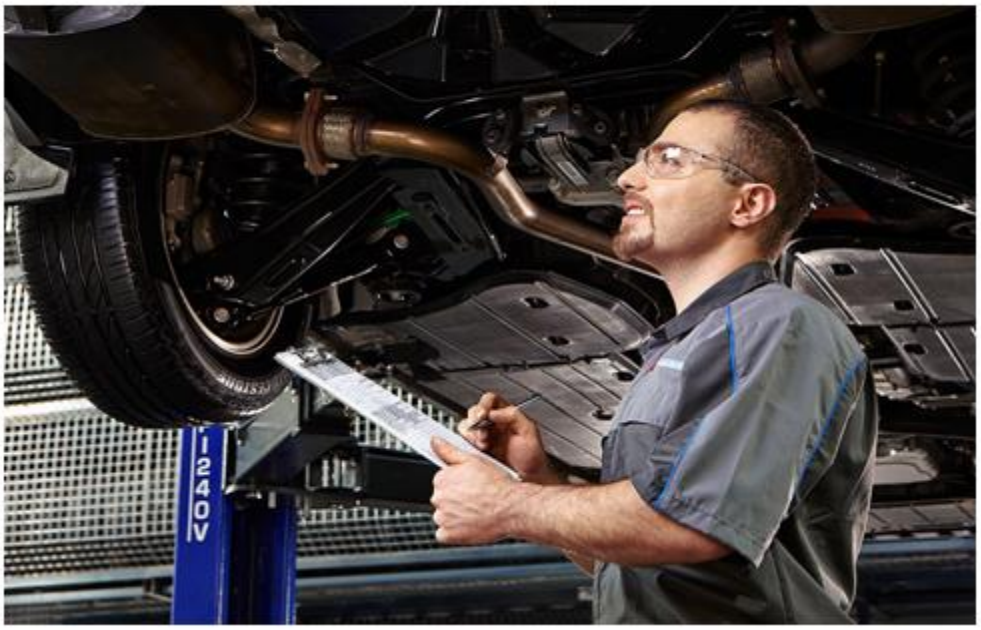
- **As per customer complaint Diagnostics Engineer wants to diagnose/read faults, Find root cause Fix the issues and Clear the DTCs from the servers memory**

DTC Information Generated

Service the vehicle as per DTC information



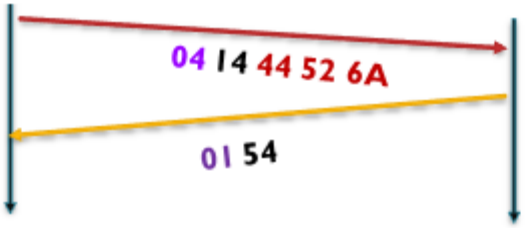
Checking to clear Diagnostic Information



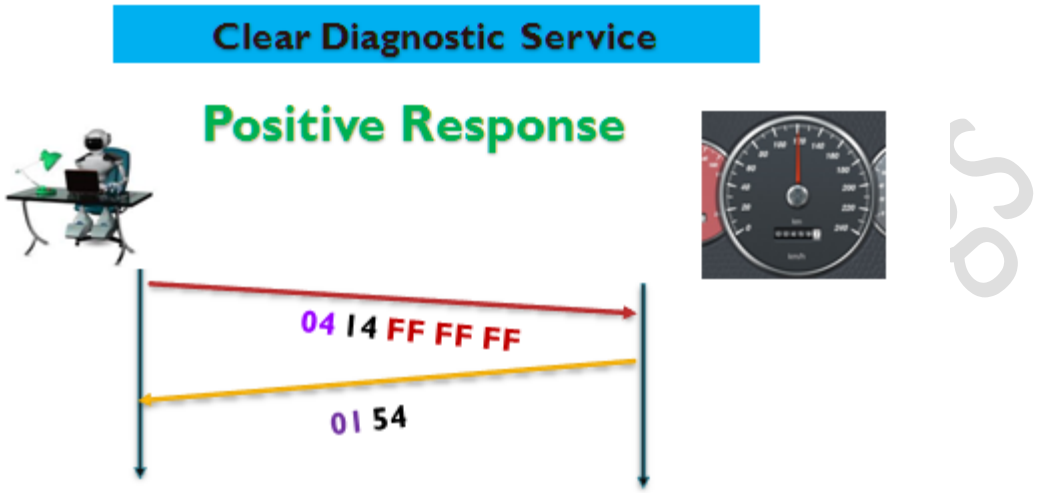
Clearing Specific DTC

Clear Diagnostic Service

Positive Response



Clearing All the DTCs



Possible Information to be cleared

- **Permanent DTCs shall be stored in non-volatile memory. These DTCs cannot be cleared by any test equipment.**
- **If we disconnect the battery then clearing DTC can be prevented.**
- **Permanent DTCs shall be erasable if the engine control module is reprogrammed and the readiness status for all monitored components and systems are set to not complete.**
- **Any DTC information stored in an optionally available DTC mirror memory in the server is not affected by this service**

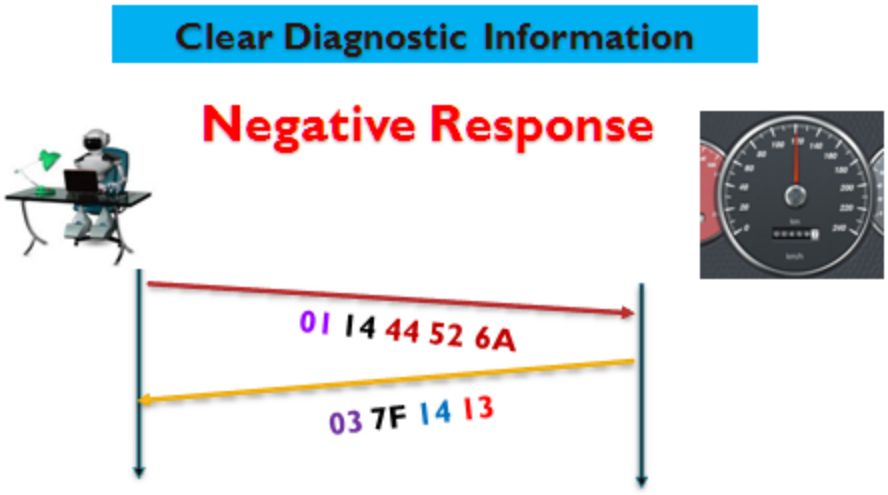
What happens if tester not clear the DTCs and whats the purpose of clearing DTC in ECU

List of NRCs Supported

1. 0x13 Incorrect Message Length
2. 0x22 Conditions Not Correct
3. 0x31 Request Out of Range
4. 0x72 General Programming Failure

Incorrect Message Length (0x13)

ECU responds with **NRC 13** if tester tries to request with **incorrect message length**



Conditions not correct (0x22)

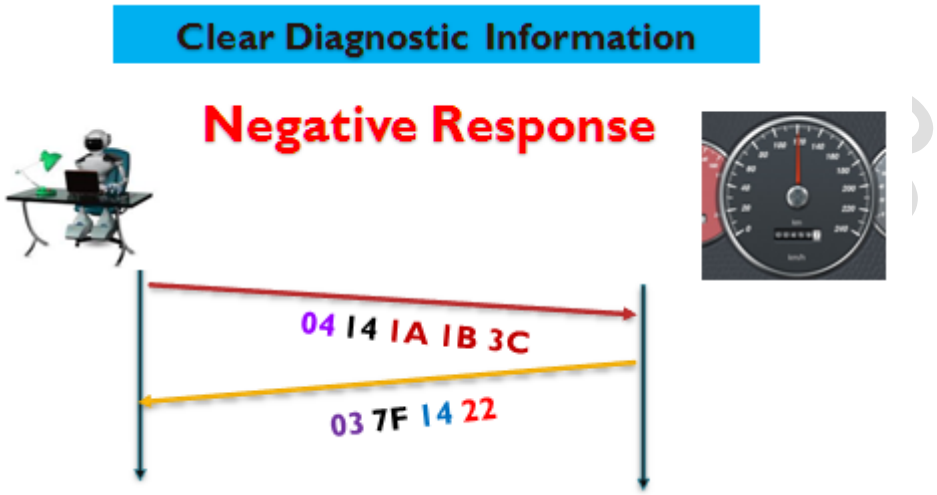
ECU responds with **NRC 22** if tester tries to request this service when the **conditions are not met**.

Conditions not correct occurs under different circumstances given below

- If requested server operating conditions are not met
- If requested server Internal conditions are not met
- If server is in critical mode
- If server request is already in progress and yet to finish
- If requested criteria not met in the server

Sub-function Not Supported (0x22)

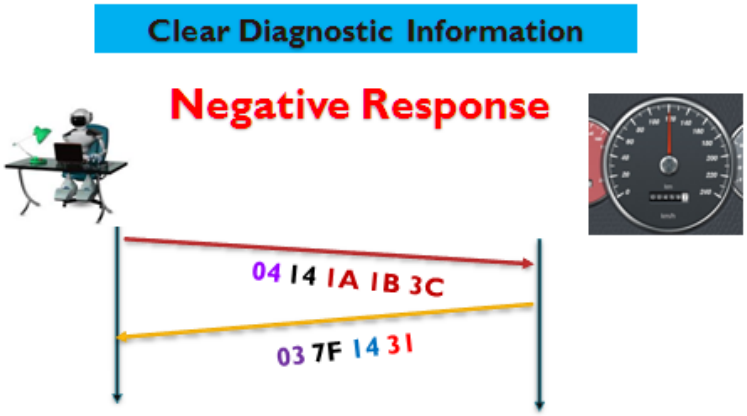
ECU responds with **NRC 22** if tester tries to request this service when the **conditions are not met**.



Sub-function Not Supported (0x31)

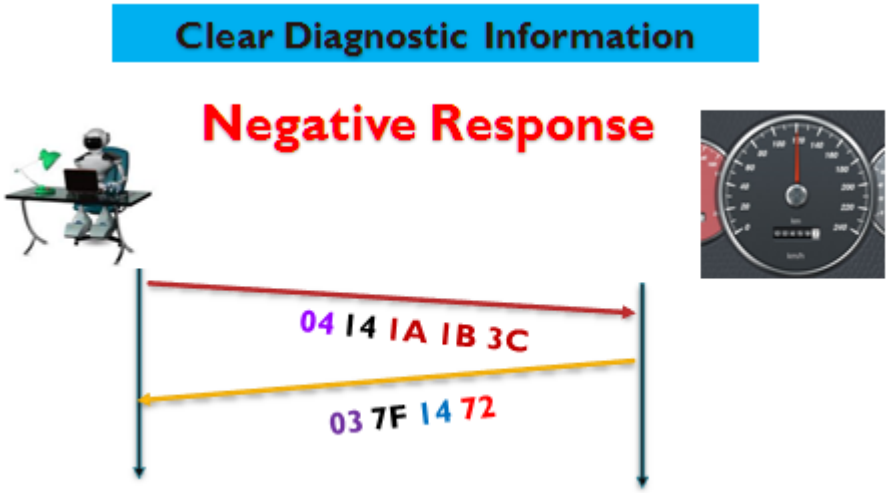
ECU responds with **NRC 31** if tester tries to request this service with DTC that is **out of range**.

Assumption Requirement says, DTC **1A 1B 3C** are not supported for this project. But tester requests with the **unsupported DTC**, Let's see the response for the request



General Programming Failure (0x72)

General Programming Failure NRC can be returned if the server **detects an error** when writing to a **null data** in memory location **1A 1B 3C**, May the Fault still exists but tester trying to erase the data by clear DTC informatio



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