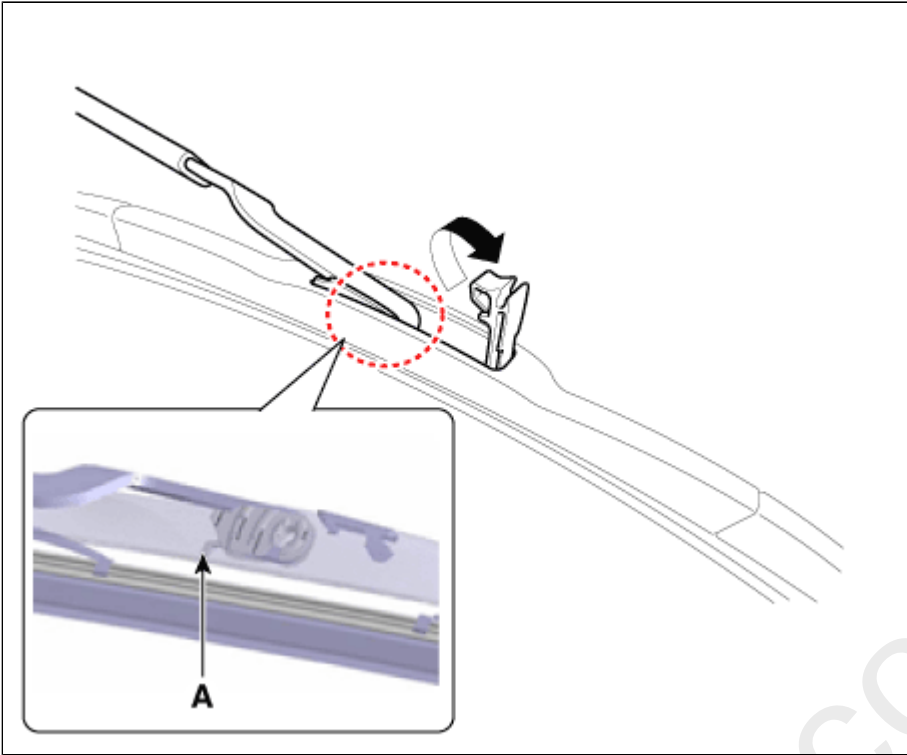
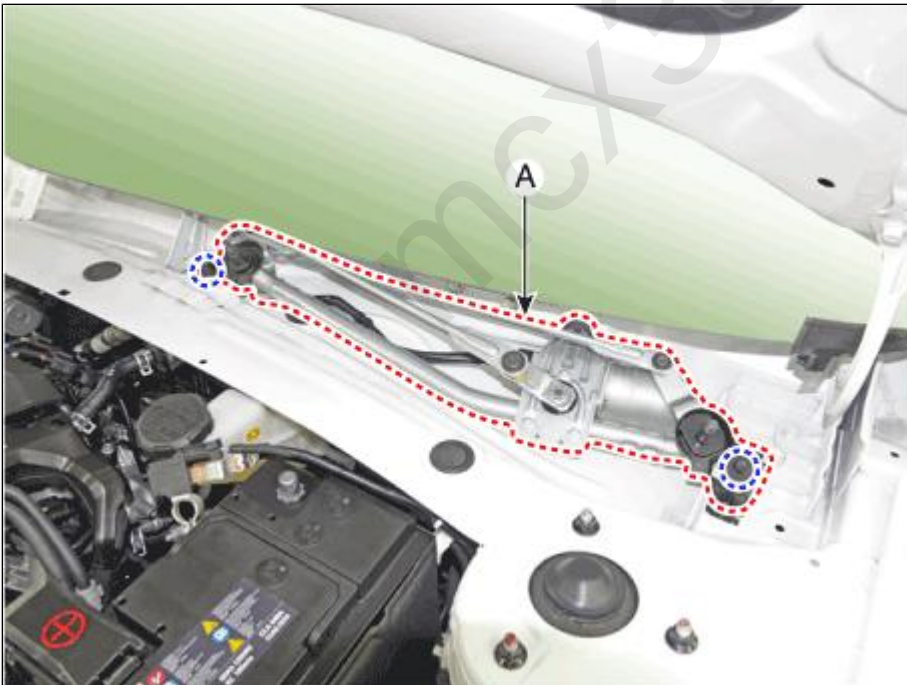


## Removal

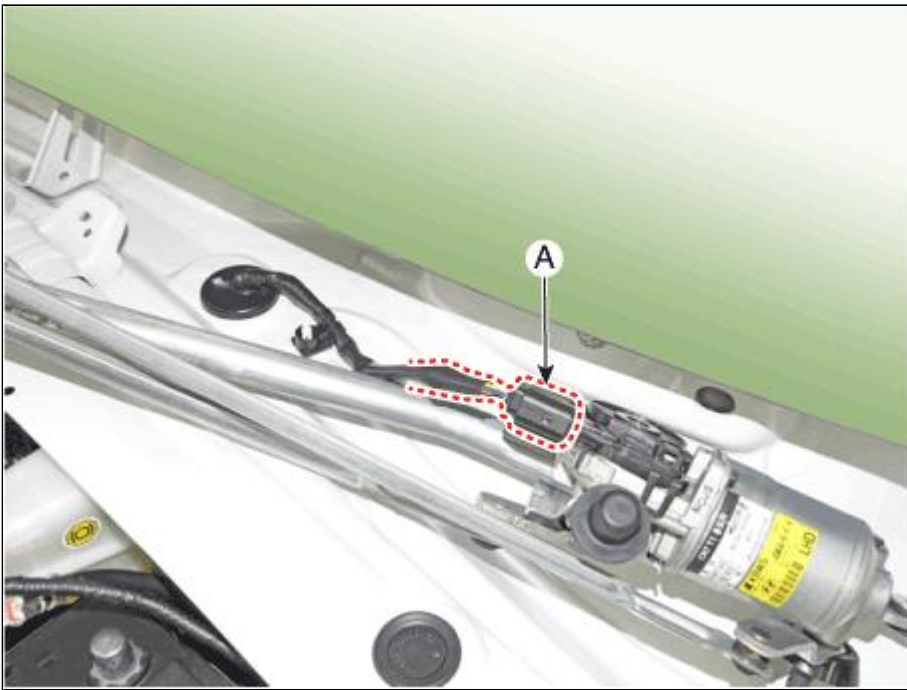
1. Disconnect the negative (-) battery terminal.
2. If necessary, release the wiper blade fixing clip by pulling up and remove the wiper blade from the inside radius of wiper arm.



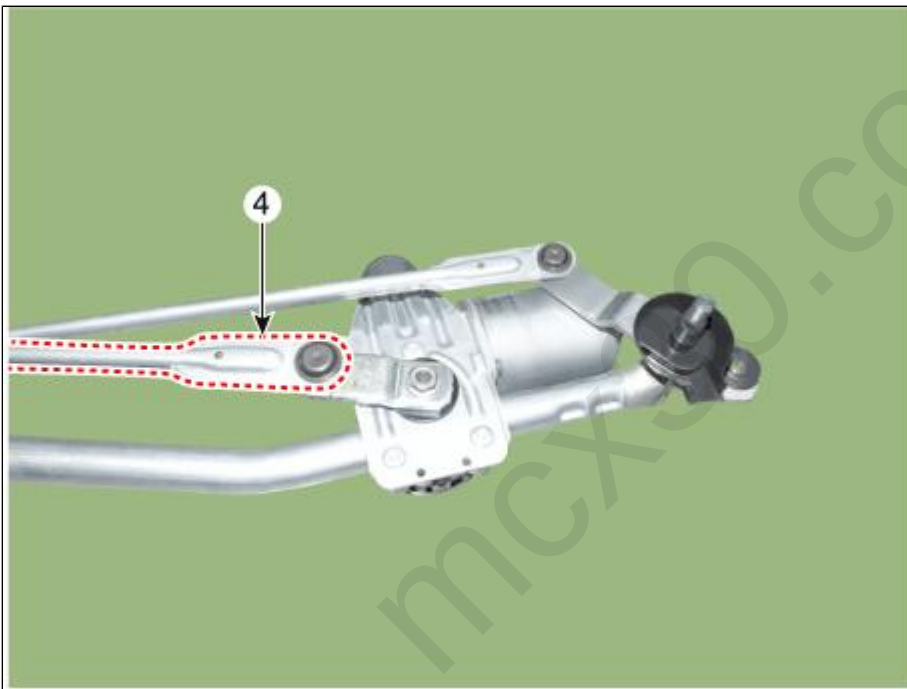
3. Remove the cowl top cover.  
(Refer to Body - "Cowl Top Cover")
4. Remove the windshield wiper motor and linkage assembly (A) after removing 2 bolts.



5. Disconnect the wiper motor connector (A) from the wiper motor & linkage assembly.



6. Hold the wiper motor crank arm and remove the upper linkage (A) from the wiper motor crank arm.

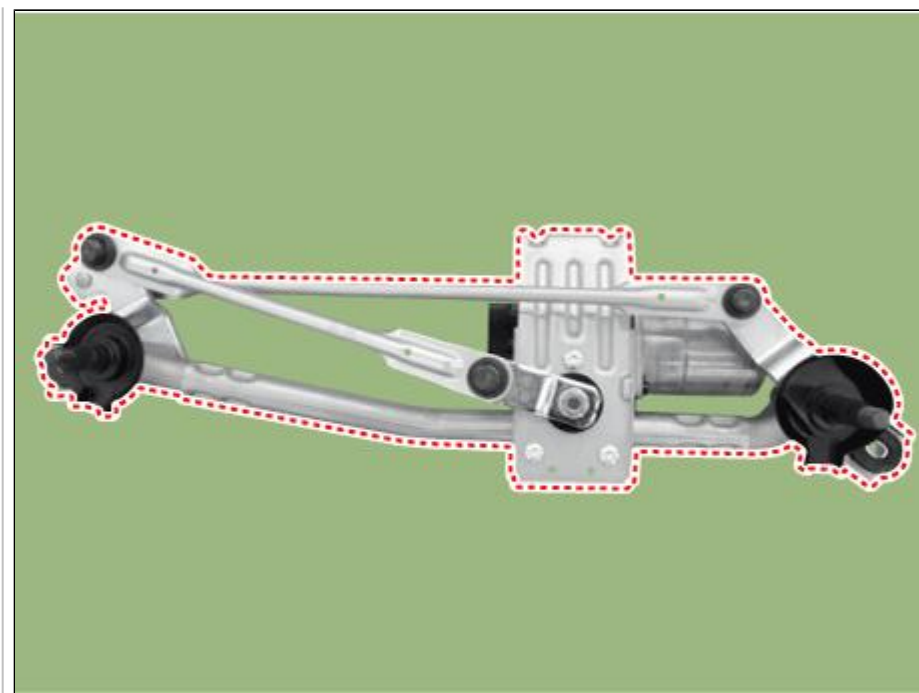


#### **CAUTION**

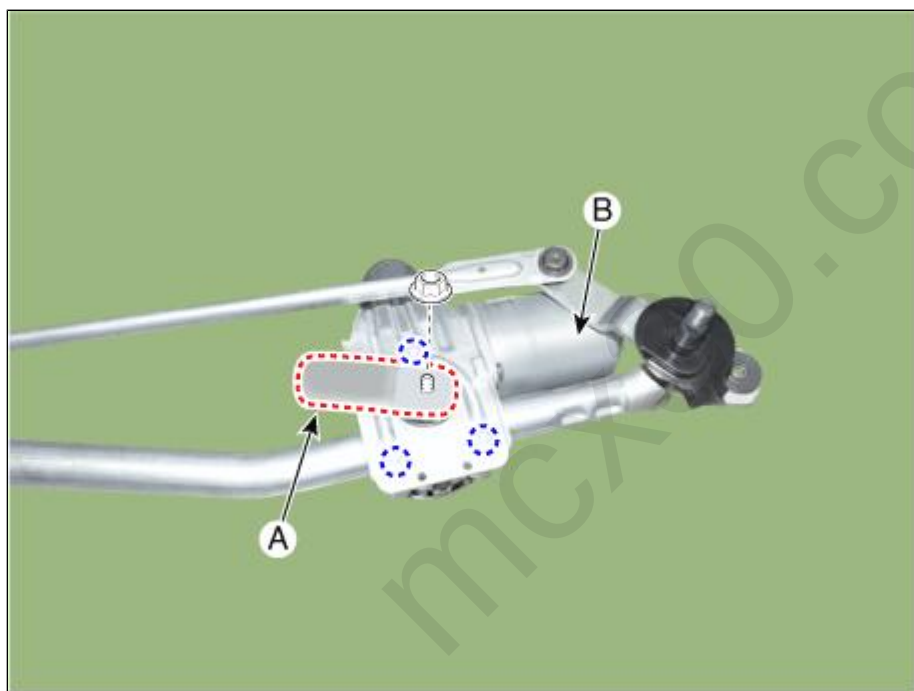
Before removing the wiper motor and linkage assembly, make sure that the linkage is stopped at auto stop position.

To install the wiper motor crank arm exactly, check that the linkage is aligned with the crank arm in straight line and the angle of each linkages.

Be careful not to bend the linkage.



7. Loosen the mounting nut, screws and remove the crank arm (A) and wiper motor (B).



#### Installation

1. Install the wiper motor and linkage assembly and then connect the wiper motor connector.

---

#### **Tightening torque :**

7.0 - 11.0 Nm (0.7 - 1.1 kgf.m, 5.0 - 7.9 lbf.ft)

---

2. Install the crank arm.

---

#### **Tightening torque :**

14.7 - 19.6 Nm (1.5 - 2.0 kgf.m, 10.8 - 14.5 lbf.ft)

---

3. Install the cowl top cover.

4. Install the windshield wiper arm and blade.

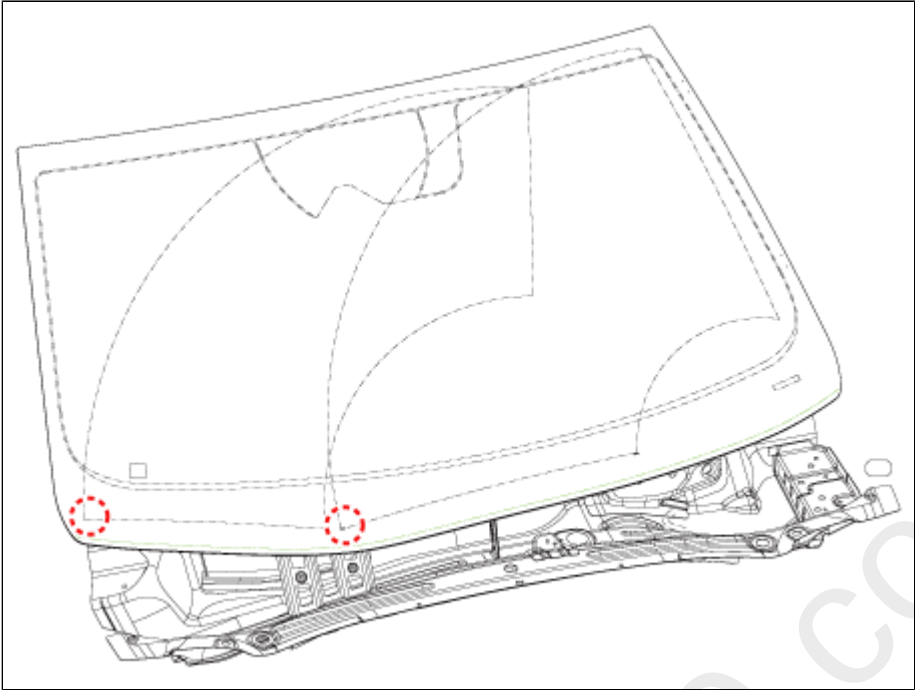
---

#### **Tightening torque :**

**NOTICE**

The windshield wiper motor must be cycled to make sure that it is in the park position.  
If necessary, adjust the wiper arm and blade.

5. Install the wiper arm and blade to the specified position.



Inspection

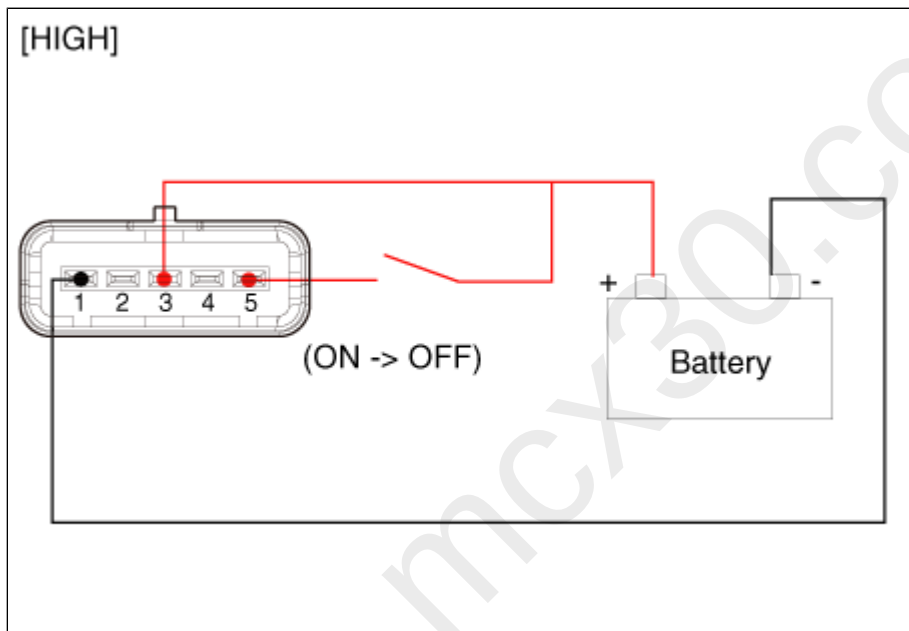
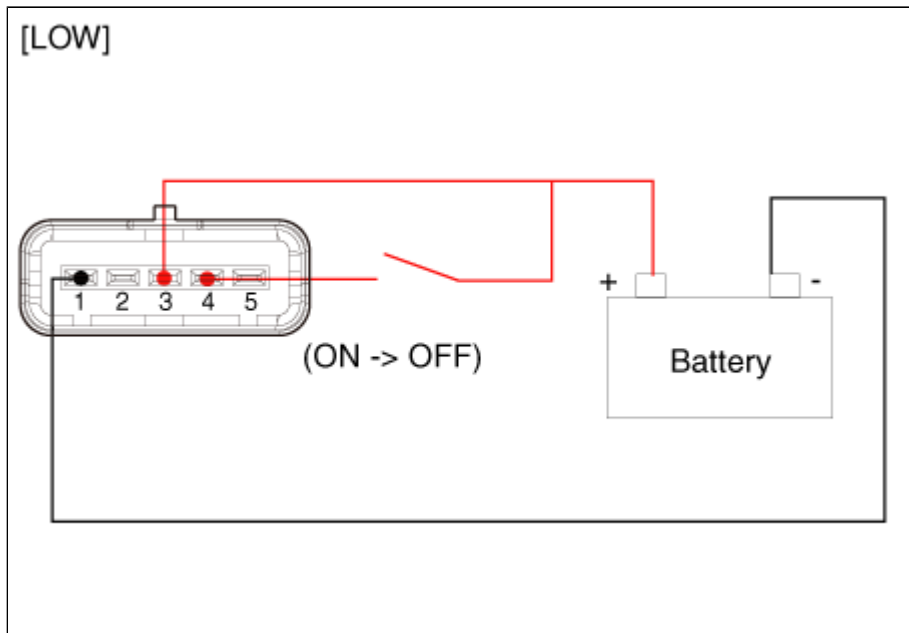
1. Remove the connector from the wiper motor.



2. Attach the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 5.

| No | Description |
|----|-------------|
| 1  | Ground      |
| 2  | Parking     |
| 3  | IGN 2       |
|    |             |

|   |            |
|---|------------|
| 4 | Low Speed  |
| 5 | High Speed |



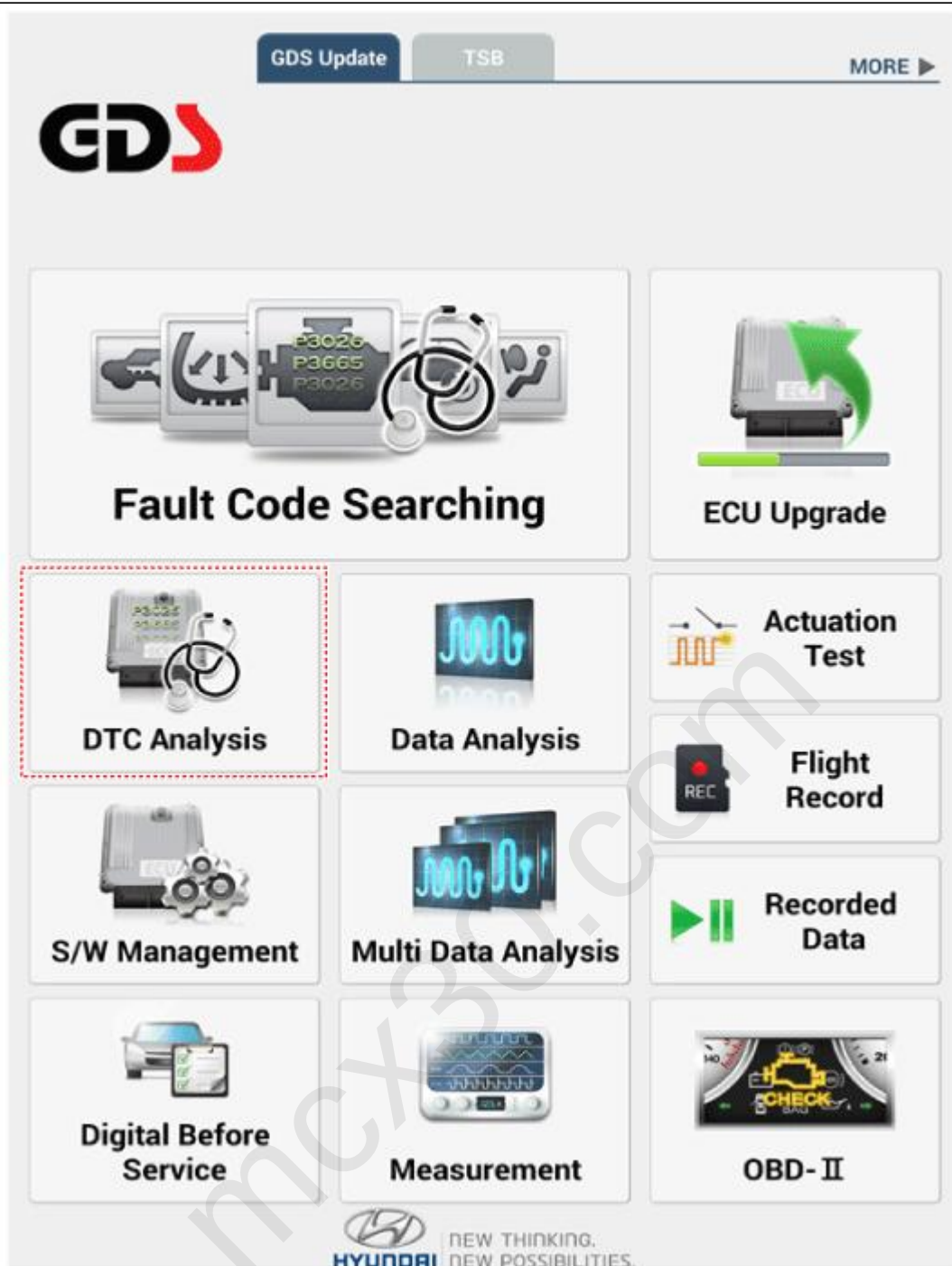
#### Diagnosis with Diagnostic tool

1. In the body electrical system, failure can be quickly diagnosed by using the vehicle diagnostic system (Diagnostic tool).

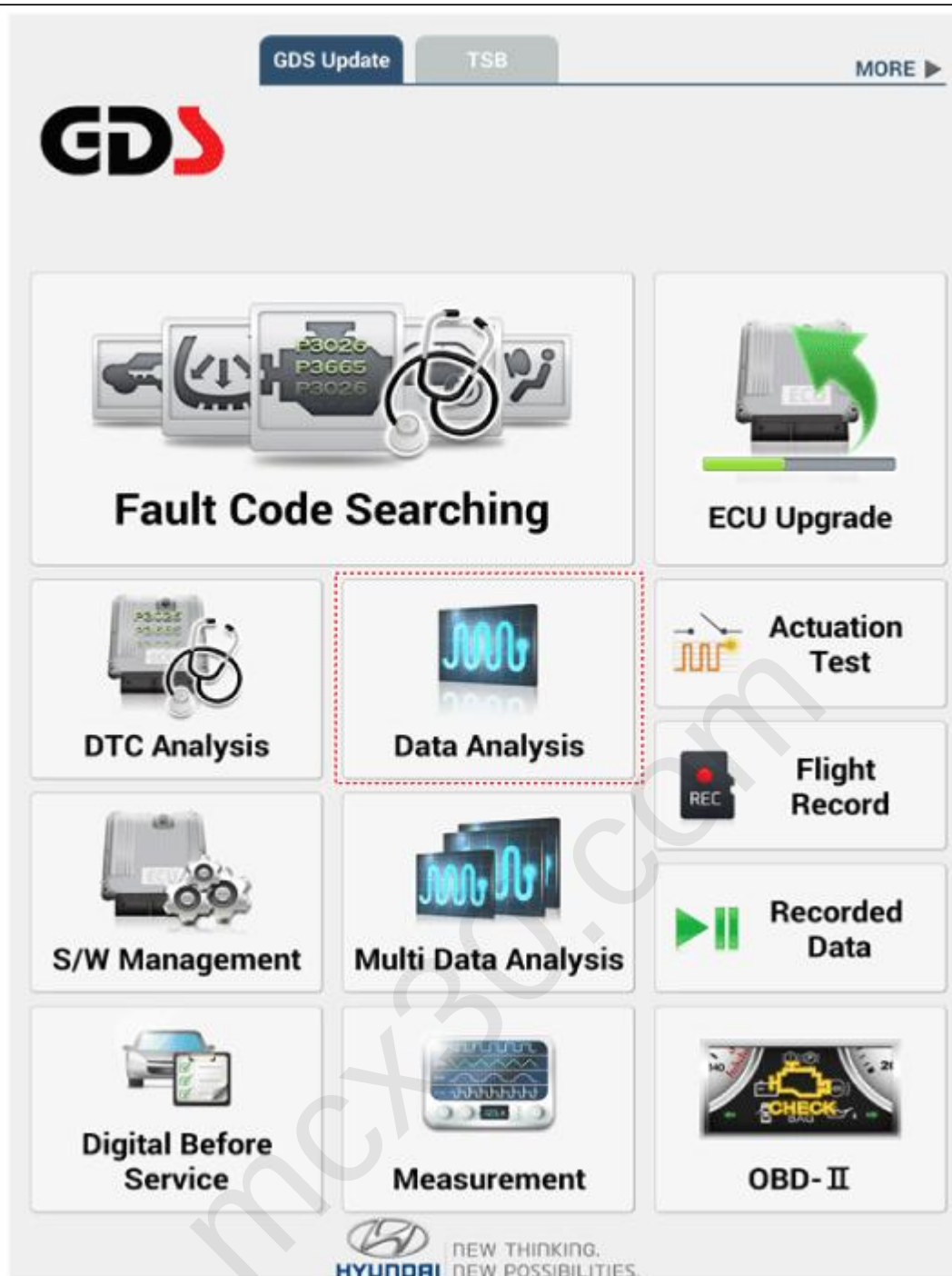
The diagnostic system (Diagnostic tool) provides the following information.

- (1) Fault Code Searching : Checking failure and code number (DTC)
- (2) Data Analysis : Checking the system input/output data state
- (3) Actuation test : Checking the system operation condition
- (4) S/W Management : Controlling other features including system option setting and zero point adjustment

2. If diagnose the vehicle by Diagnostic tool, select "DTC Analysis" and "Vehicle".



3. Select the 'Data Analysis'.



4. Select the 'IBU\_BCM' to search the current state of the input/output data.

## Vehicle Selection



PREV

AUTO  
VIN



RESET

|             |  |             |
|-------------|--|-------------|
| SANTAFE(SM) |  |             |
| SANTAMO(M2) |  | D 2.2 TCL-R |

## System Selection

|            |             |              |             |              |            |
|------------|-------------|--------------|-------------|--------------|------------|
| <br>ENGINE | <br>A / T   | <br>ABS/ESP  | <br>FCA     | <br>AIRBAG   | <br>AIRCON |
| <br>4WD    | <br>EPS     | <br>RVM      | <br>SVMS    | <br>PA       | <br>BCW    |
| <br>FR_CMR | <br>AFLS    | <br>AHLS     | <br>AVN     | <br>CLU      | <br>DDM    |
| <br>HUD    | <br>IBU-BCM | <br>IBU-IMMO | <br>IBU-SMK | <br>IBU-TPMS | <br>PSM    |
|            |             |              |             |              |            |

• System

IBU-BCM

OK

| Data Analysis                                                                                        |       |      |         |
|------------------------------------------------------------------------------------------------------|-------|------|---------|
| <div> <div>Stop</div> <div>Graph</div> <div>Selective Display</div> <div>Actuation Test</div> </div> |       |      |         |
| Sensor Name(67)                                                                                      | Value | Unit | Link Up |
| Head Lamp Escort                                                                                     | ON    | -    |         |
| Rear Wiper Option Setting                                                                            | ON    | -    |         |
| Welcome Mirror or Light (Enable on Door Unlock)                                                      | ON    | -    |         |
| Welcome Mirror or Light (Enable on Driver Approach)                                                  | ON    | -    |         |
| Battery Voltage Monitoring Input                                                                     | 11.6  | V    |         |
| Light Switch Voltage(Voltage Divided)                                                                | 2.0   | V    |         |
| Head Lamp High Switch Voltage(Voltage Divided)                                                       | 5.0   | V    |         |
| Fog Lamp Switch Voltage(Voltage Divided)                                                             | 5.0   | V    |         |
| Front Wiper Switch Voltage(Voltage Divided)                                                          | 2.2   | V    |         |
| Wiper INT Volume Voltage(Voltage Divided)                                                            | 2.8   | V    |         |
| Rear Wiper Switch Voltage(Voltage Divided)                                                           | 5.0   | V    |         |
| ACC Input Voltage                                                                                    | 0.00  | V    |         |
| Ignition 1 Voltage                                                                                   | 0.00  | V    |         |
| Ignition 2 Voltage                                                                                   | 0.00  | V    |         |
| ACC                                                                                                  | OFF   | -    |         |
| IGN1                                                                                                 | OFF   | -    |         |
| IGN2                                                                                                 | OFF   | -    |         |
| Security LED                                                                                         | ON    | -    |         |
| PAS Switch/RPAS OFF Switch                                                                           | OFF   | -    |         |
| PAS Indicator/RPAS OFF Indicator                                                                     | OFF   | -    |         |

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 ☐ 1
 ☐ 2
 ☐ 3
 ☐ 4
 ☐ 5 Excellent Value