

Component
Location



1. Rear wiper arm nut

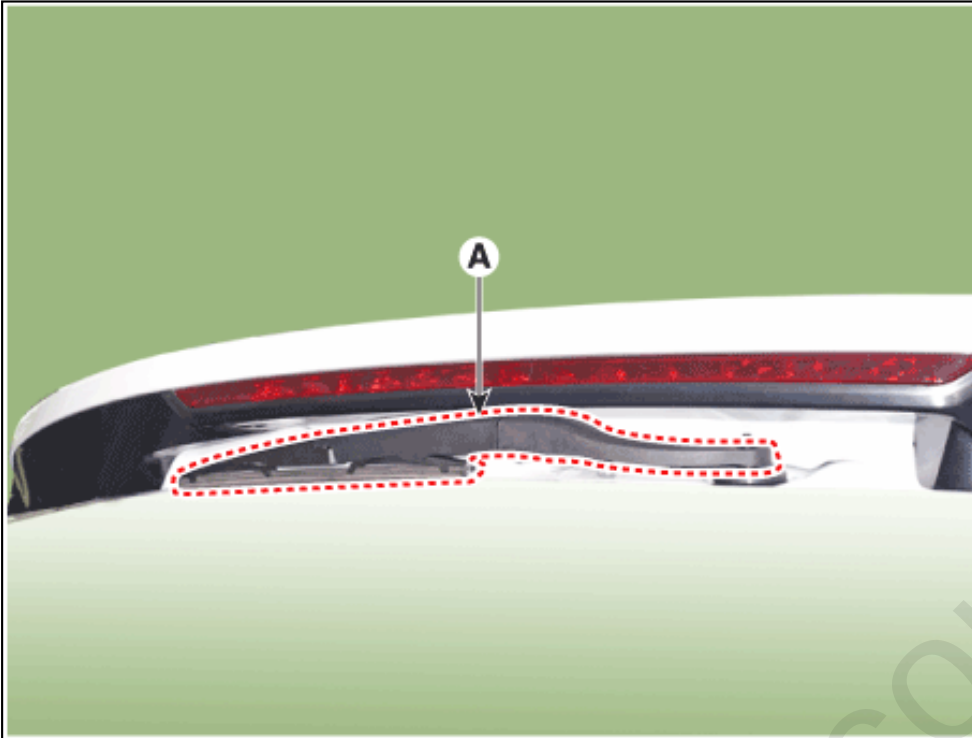
2. Rear wiper arm & blade
3. Rear wiper grommet

4. Rear wiper motor assembly

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Removal

1. Disconnect the negative (-) battery terminal.
2. Loosen the mounting nut and remove the rear wiper arm & blade (A).

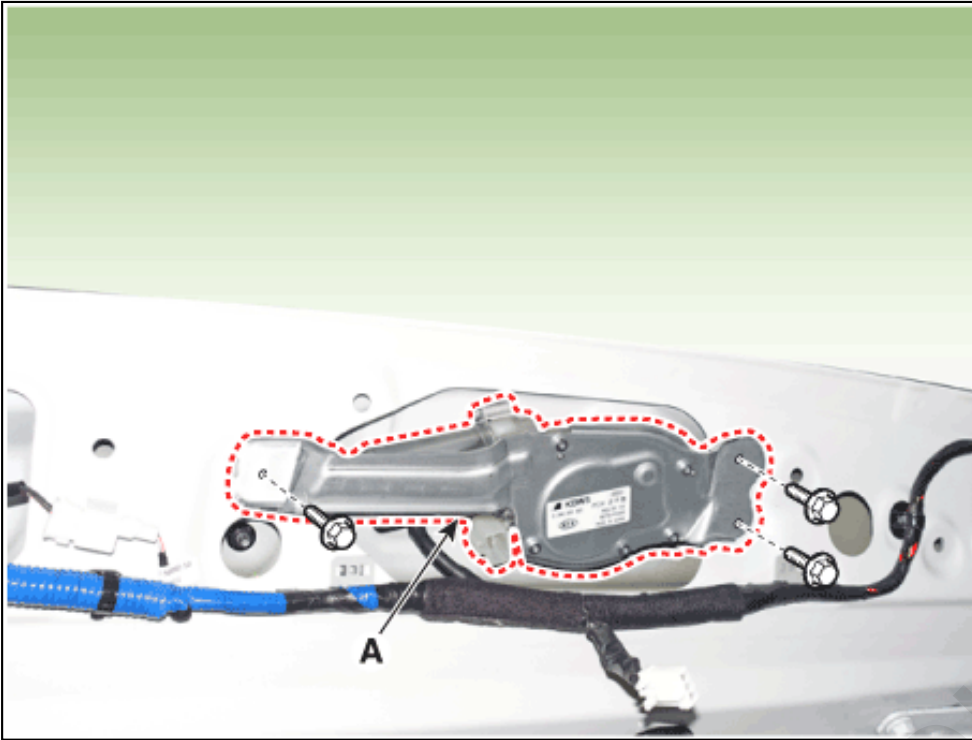


- Take care not to damage the rear glass when removing the rear wiper arms & blades.

3. Remove the tail gate trim.
(Refer to Body - "Tailgate Trim")
4. Disconnect the motor connector (A).



5. Loosen the mounting bolts and remove the rear wiper motor assembly (A).



Installation

1. Install the rear wiper motor assembly.

Tightening torque Nut :

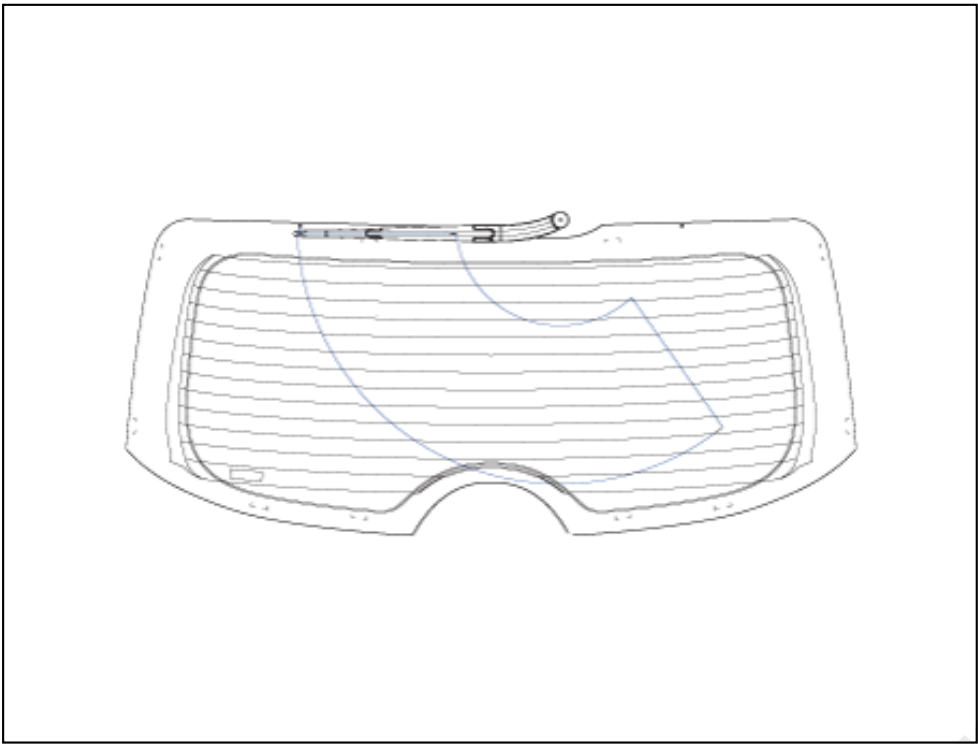
6.9 - 9.8 Nm (0.7 - 1.0 kgf.m, 5.0 - 7.2 lbf.ft)

2. Install the tail gate trim.
3. Install the rear wiper arm cap after tightening the nut.

Tightening torque Nut :

8.8 - 12.7 N.m (0.9 - 1.3 kgf.m, 6.5 - 9.4 lb.ft)

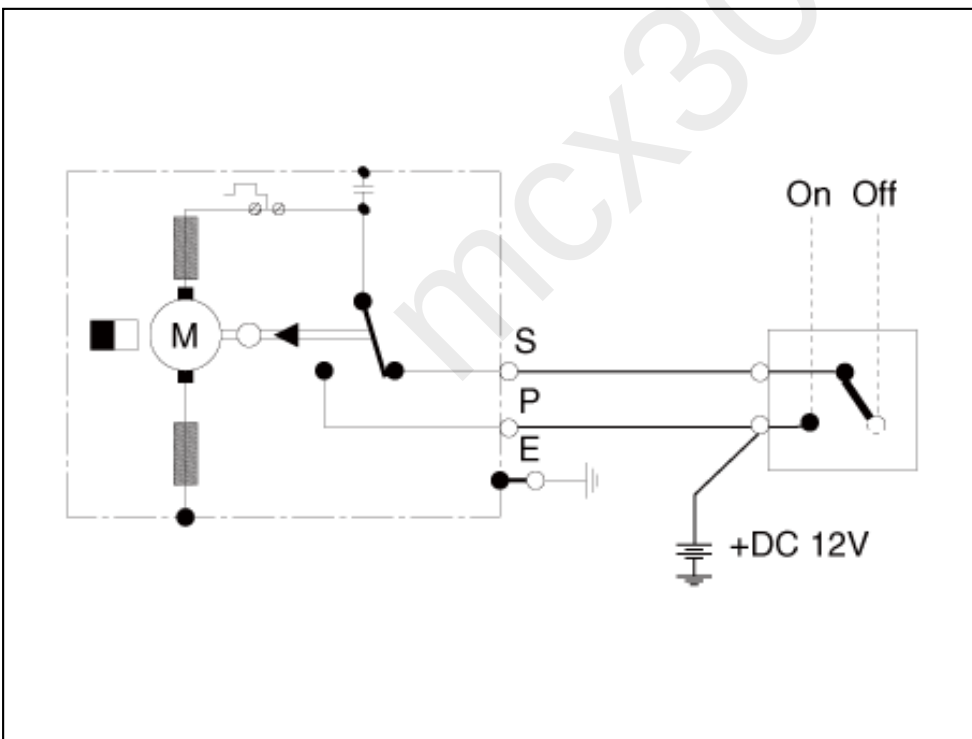
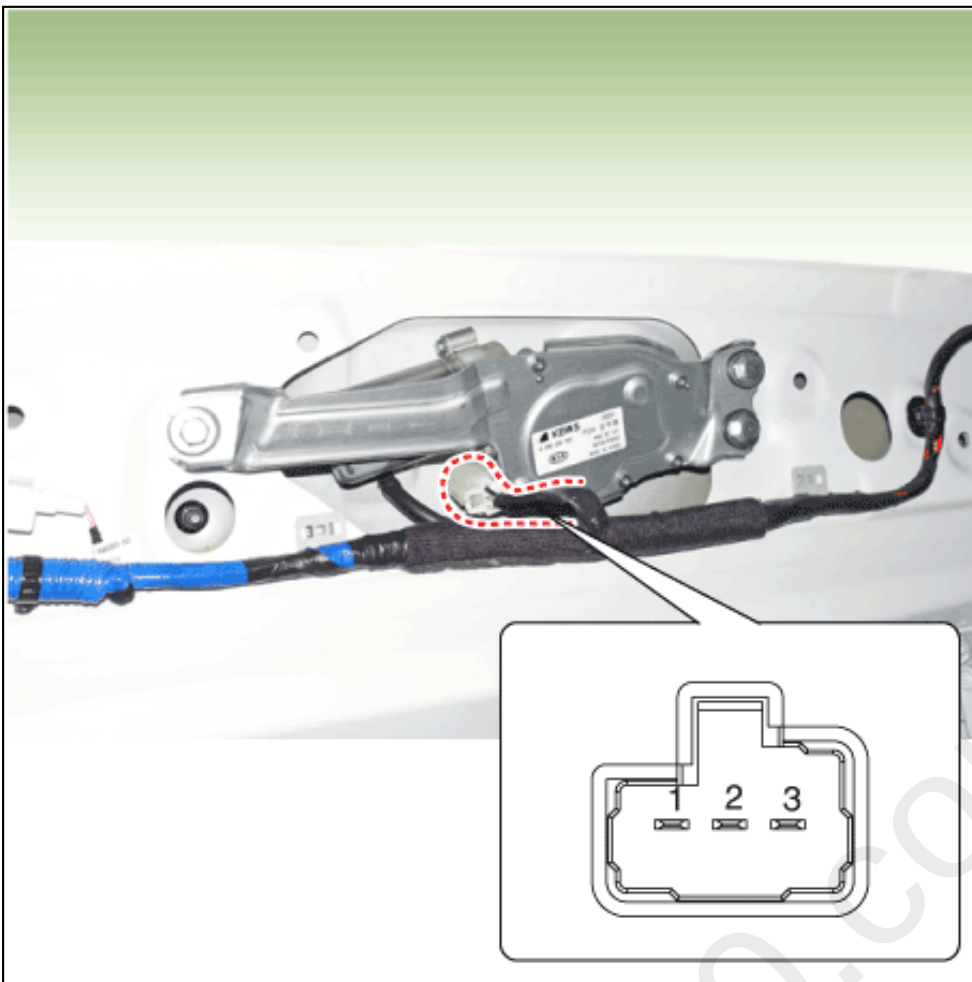
4. Set the rear wiper blade and to the lowest defogger heat line and tailgate glass.



Inspection

- 1. Remove the connector from the rear wiper motor.
- 2. Connect battery positive (+) and negative (-) cables to terminals 2 and 1 respectively.
- 3. Check that the motor operates normally. Replace the motor if it operates abnormally.

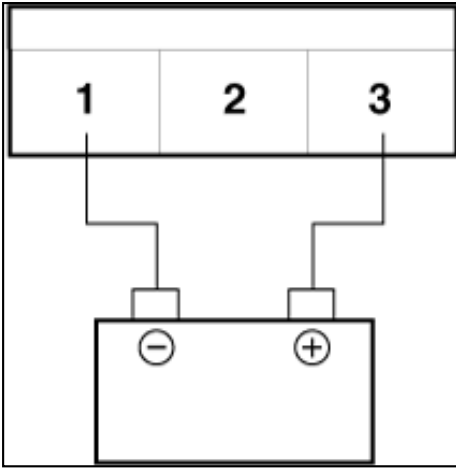
No	Description
1	Rear wiper motor (+)
2	Parking
3	Ground



Automatic Stop Operation Check

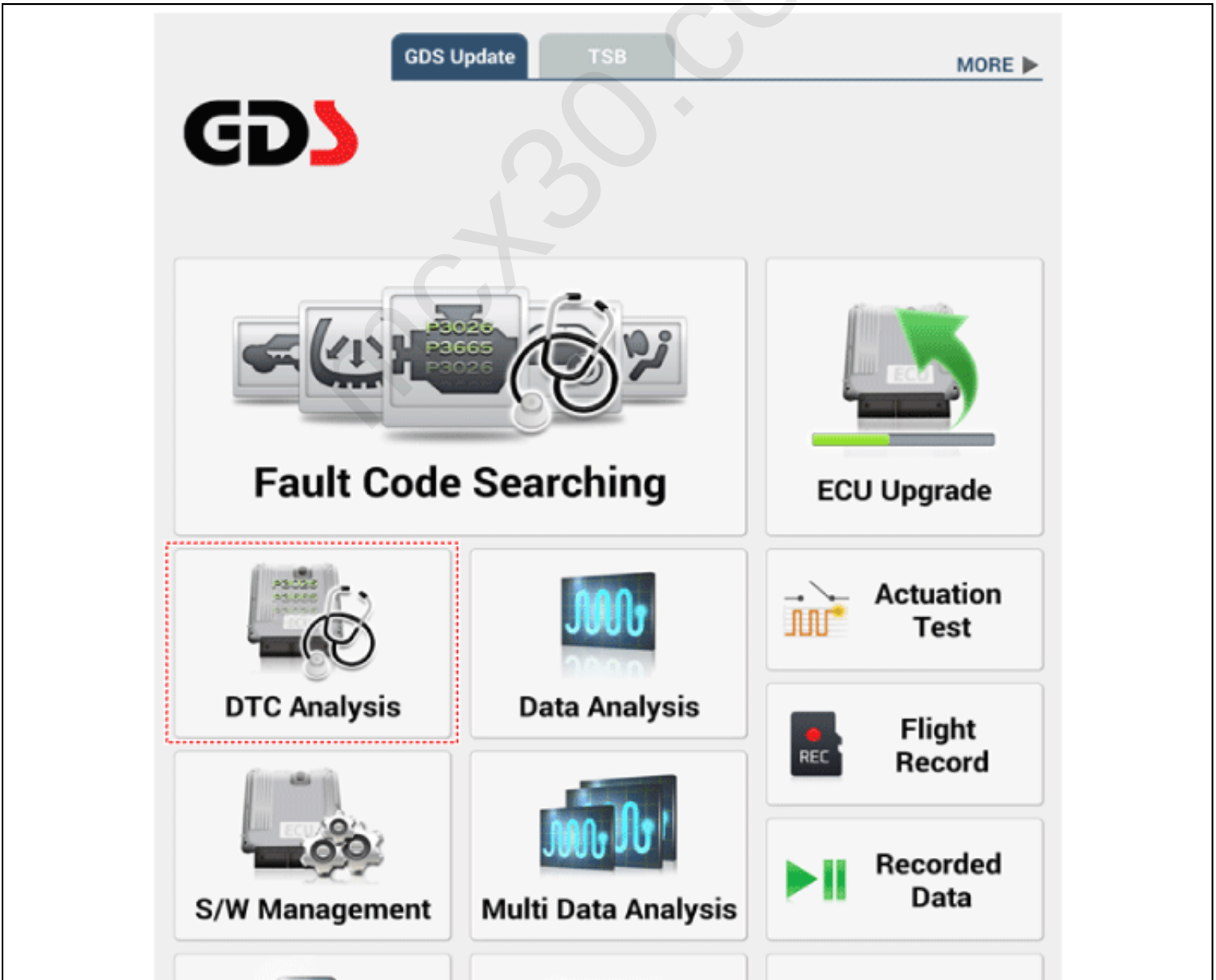
1. Operate the motor at low speed using the stalk control.
2. Stop the motor operation anywhere except at the off position by disconnecting terminal 3.
3. Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1.

4. Check that the motor stops running at the off position.



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".



S/W Management

Multi Data Analysis

Data



Digital Before
Service



Measurement



OBD- II



HYUNDAI

NEW THINKING.
NEW POSSIBILITIES.

3. Select the 'Data Analysis'.



GDS Update

TSB

MORE ►



Fault Code Searching



ECU Upgrade



DTC Analysis



Data Analysis



Actuation
Test



Flight
Record



S/W Management



Multi Data Analysis



Recorded
Data



Digital Before
Service



Measurement



OBD- II



HYUNDAI

NEW THINKING.
NEW POSSIBILITIES.

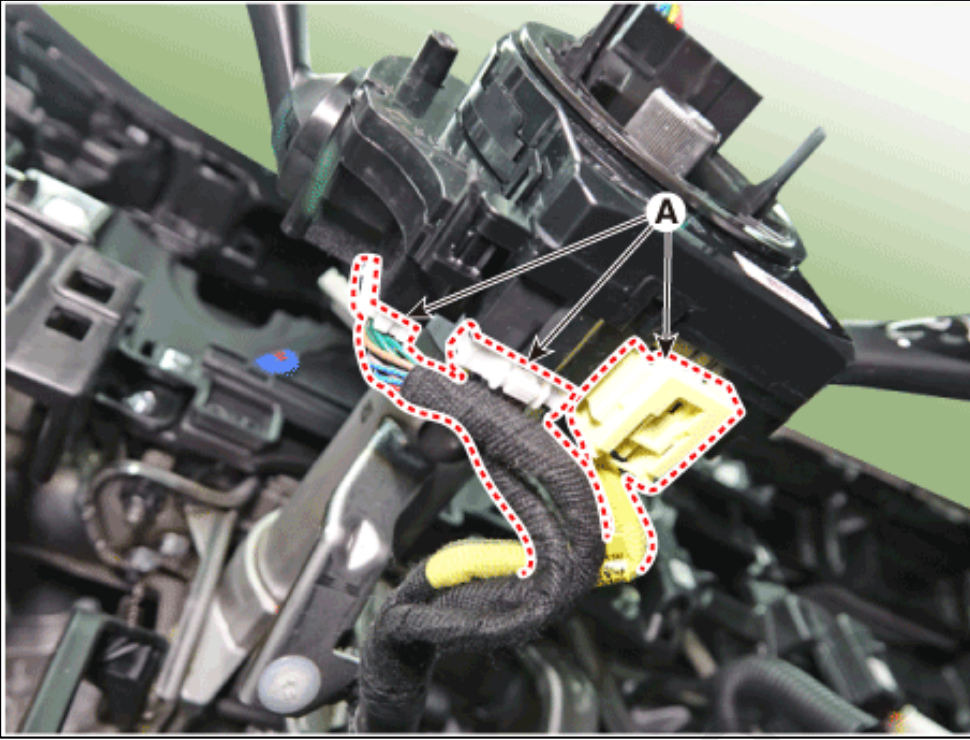
4. Select the 'IBU_BCM' to search the current state of the input/output data.



Data Analysis			
Stop Graph Selective Display Actuation Test			
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	-	

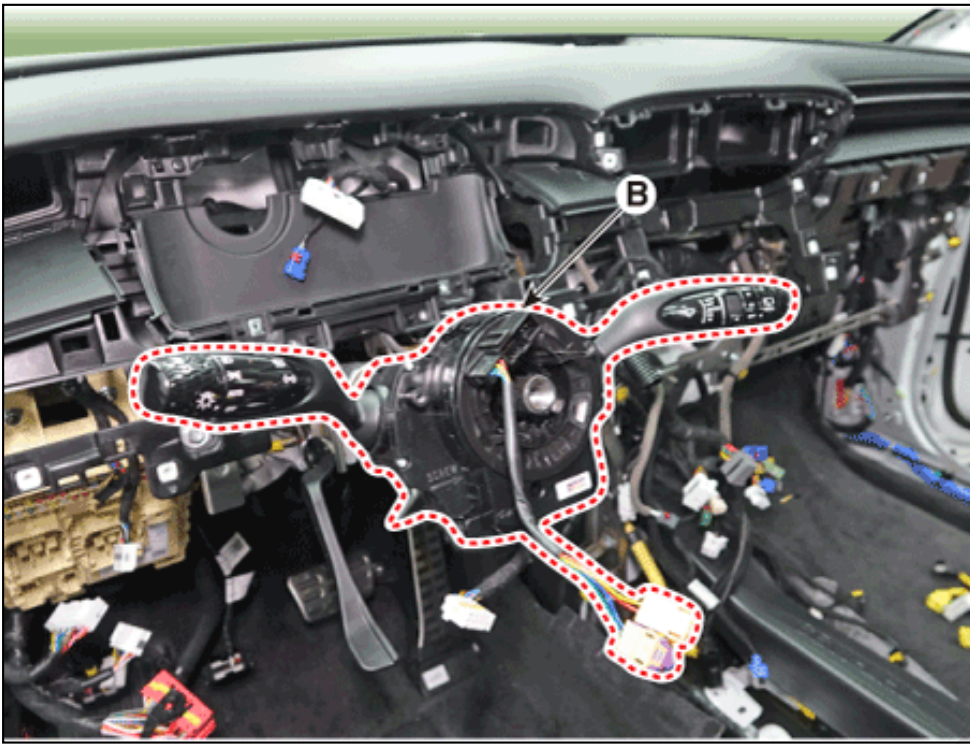
Removal

1. Disconnect the negative (-) battery terminal.
2. Remove the clock spring.
(Refer to Restraint - "Driver Airbag(DAB) and Clock Spring")
3. Disconnect multifunction switch assembly connector (A).



4. Remove the multifunction switch assembly (B) after loosening the clamp (A).





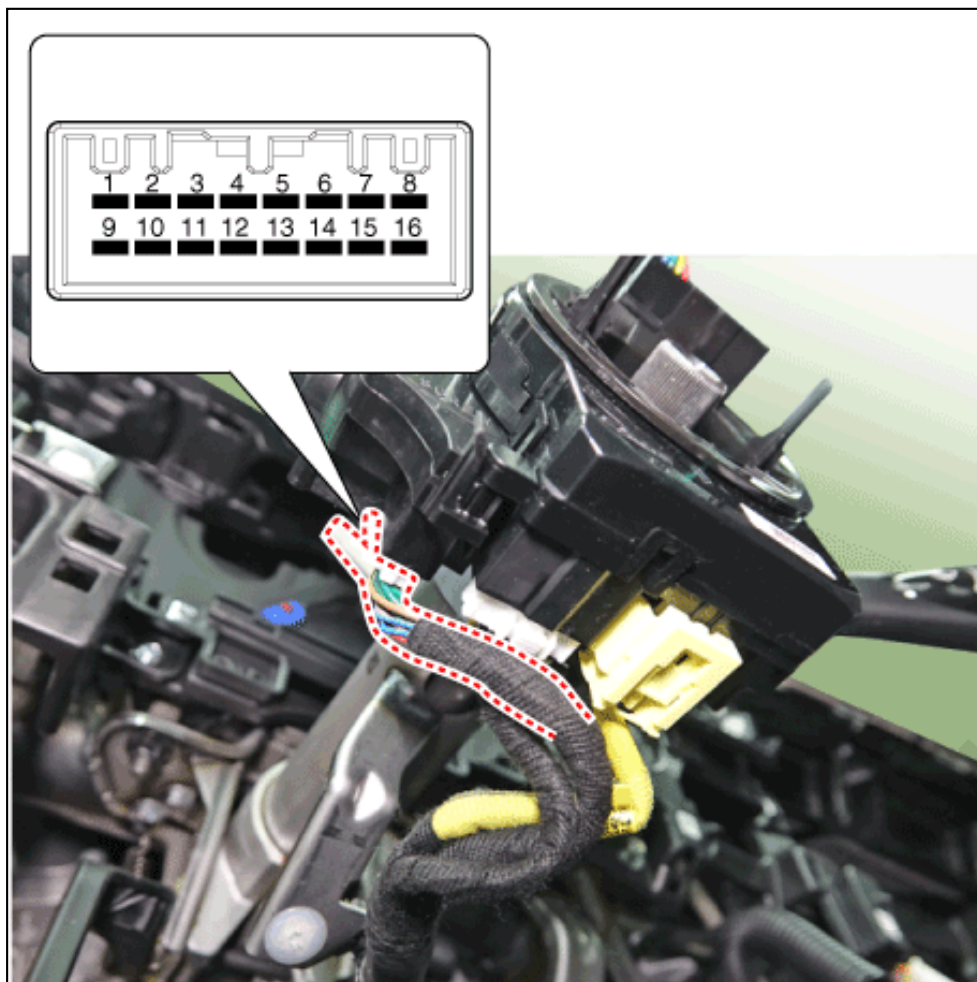
Installation

1. Install the multifunction switch assembly.
2. Install the steering column upper and lower shrouds.
3. Install the steering wheel.
4. Connect the negative (-) battery terminal.

Inspection

Multifunction Switch Inspection

1. Check for continuity between the terminals in each switch position as shown below.



Switch	Switch position	Resistance (Ω , $\pm 3.5\%$)
Front wiper switch	MIST	330
	OFF	∞
	INT (AUTO)	800
	LOW	1800
	HIGH	5700
Front wiper intermittent volume	Volume 1	330
	Volume 2	690
	Volume 3	1310
	Volume 4	2610
	Volume 5	7310
Rear wiper switch	OFF	∞
	LOW	910
	HIGH	2910
Fog lamp switch	OFF	∞
	Front foglamp	910
	Rear foglamp	2910

Turn signal switch	OFF	∞
	Rear bumper left	910
	Left	2910
	Rear bumper right	910
	Right	2910
Dimmer & Passing switch	OFF	∞
	Passing	910
	Dimmer	2910
Light switch	OFF	680
	AUTO / DRL	1680
	Tail lamp	5580
	Low beam	∞

Inspection (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.

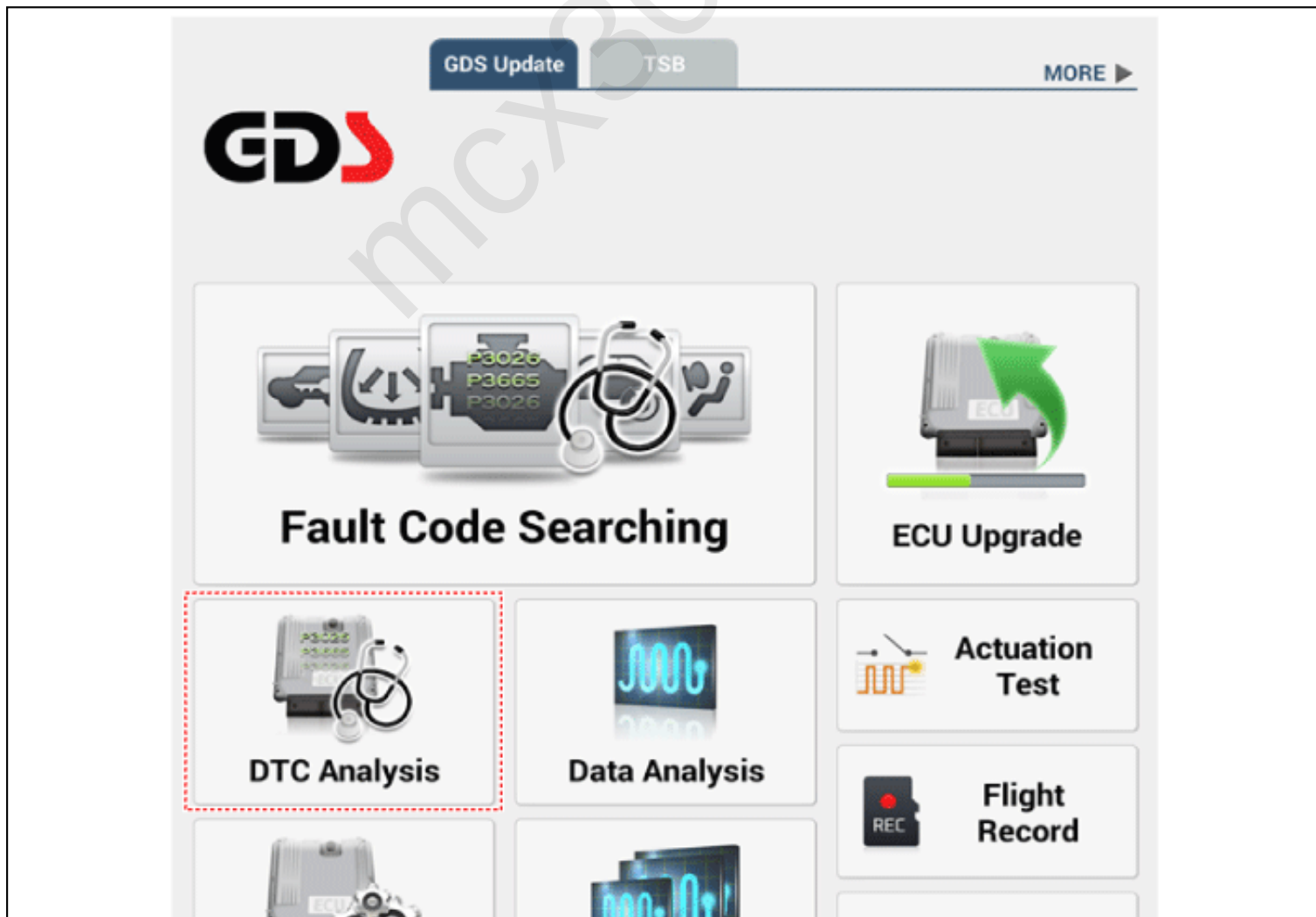
(1) Fault Code Searching : Checking failure and code number (DTC)

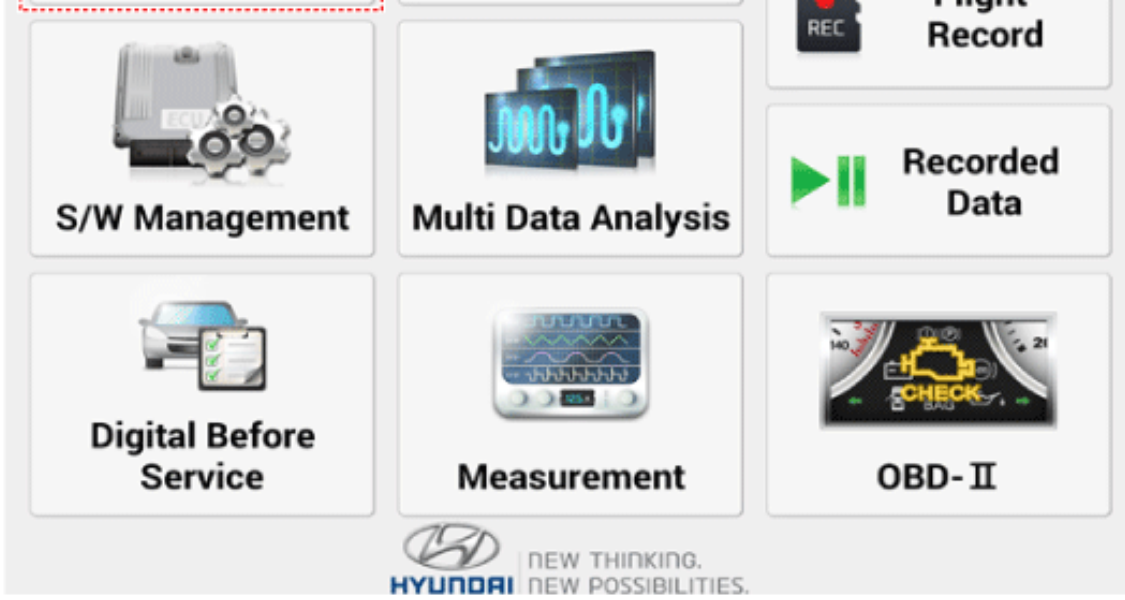
(2) Data Analysis : Checking the system input/output data state

(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. If check current status, select the "Data Analysis" and "Car model".



Digital Before
Service

Measurement

OBD- II



NEW THINKING.
NEW POSSIBILITIES.

4. Select the 'IBU_BCM' to search the current state of the input/output data.

Vehicle Selection

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← AUTO VIN ↺
PREV RESET

SANTAFE(SM)

SANTAMO(M2)

D 2.2 TCI-R

System Selection

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

● System

IBU-BCM

OK

Data Analysis			
< Stop Graph Selective Display Actuation Test >			
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	-	

Inspection

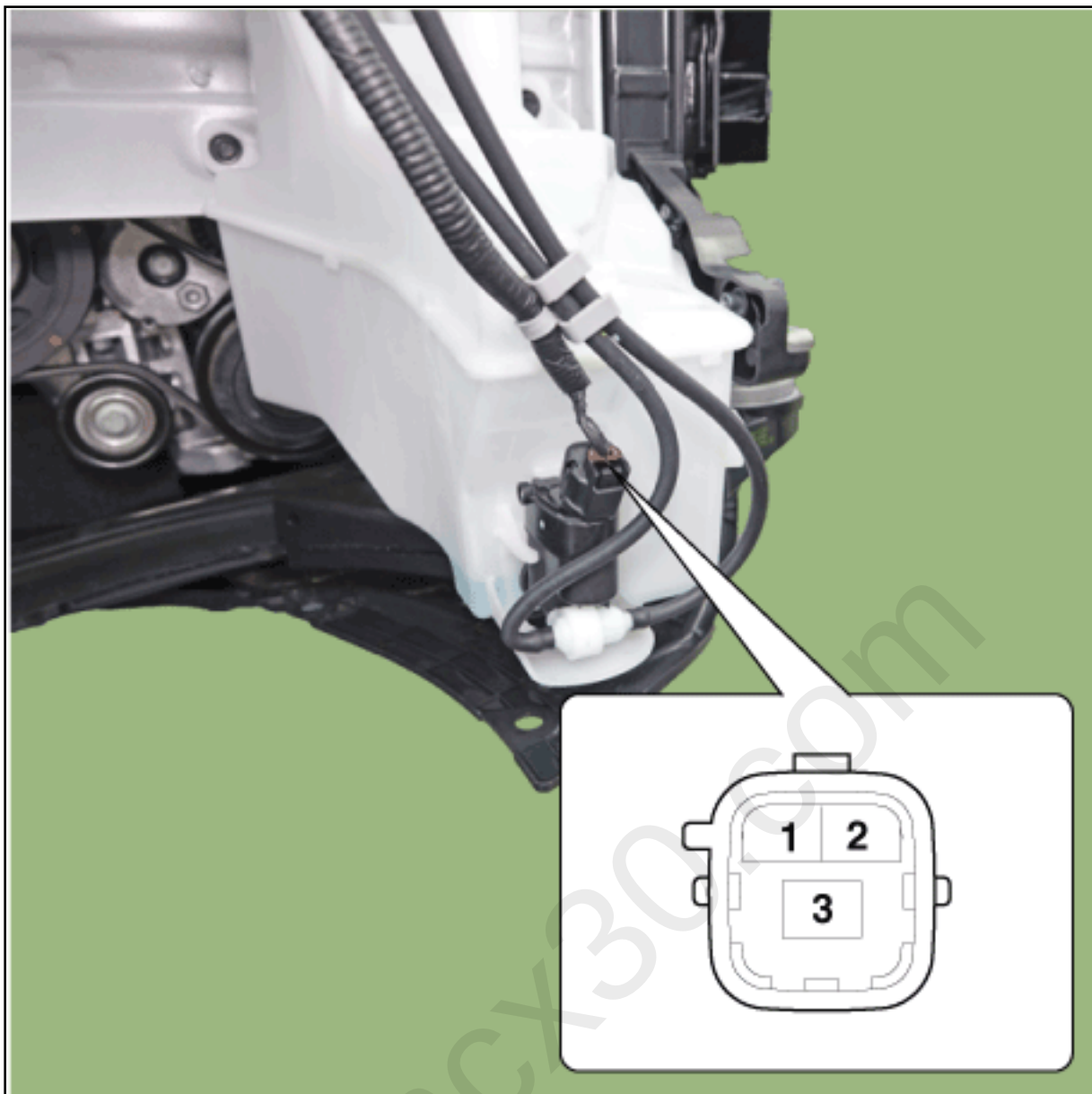
1. With the washer motor connected to the reservoir tank, fill the reservoir tank with water.

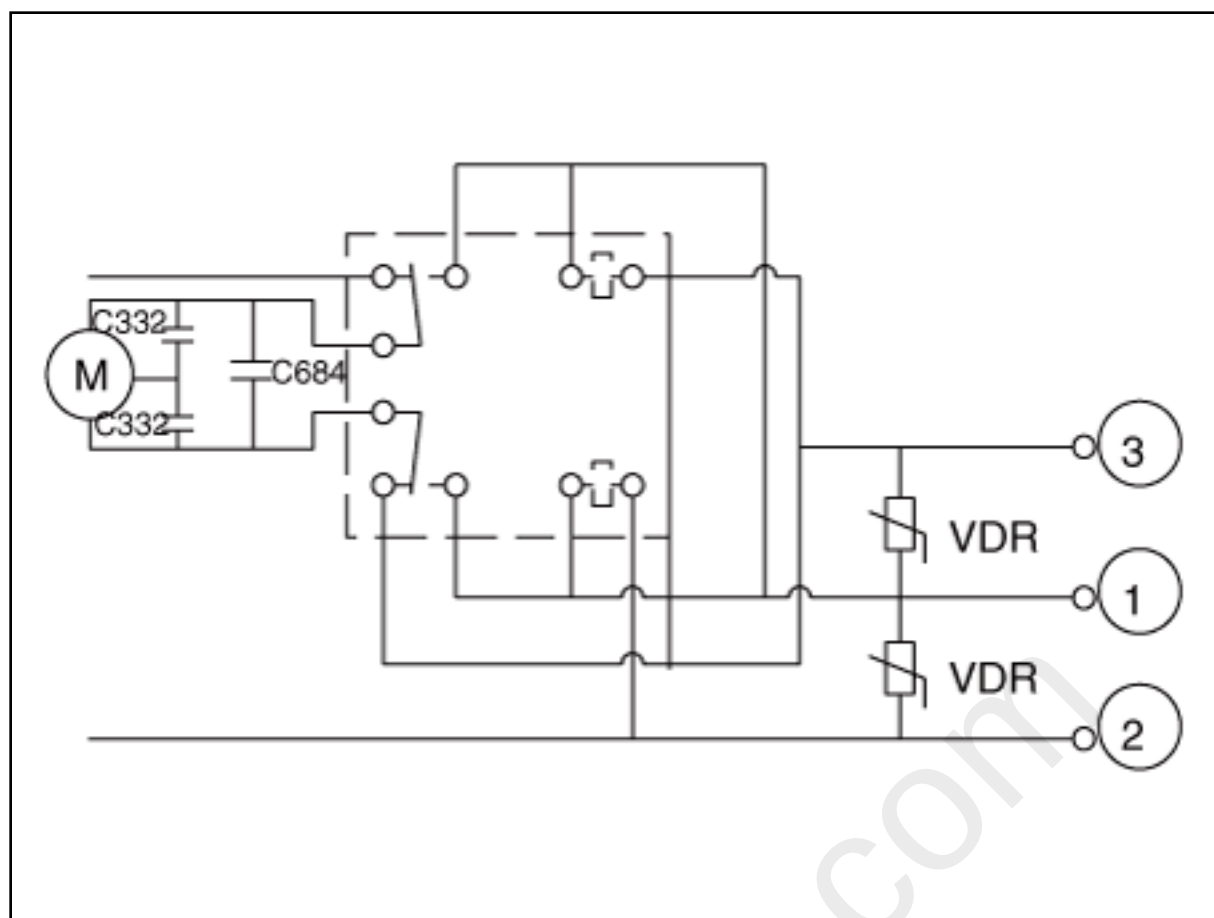


Before filling the reservoir tank with water, check the filter for foreign material or contamination. if necessary, clean the filter.

2. Connect positive (+) and negative (-) battery cables to terminals 3 and 1 respectively to see that the washer motor runs and water is pumped.
3. Check that the motor operates normally.
Replace the motor if it operates abnormally.

No	Description
1	Ground
2	Windshield washer (+)
3	Rear washer (+)





Removal

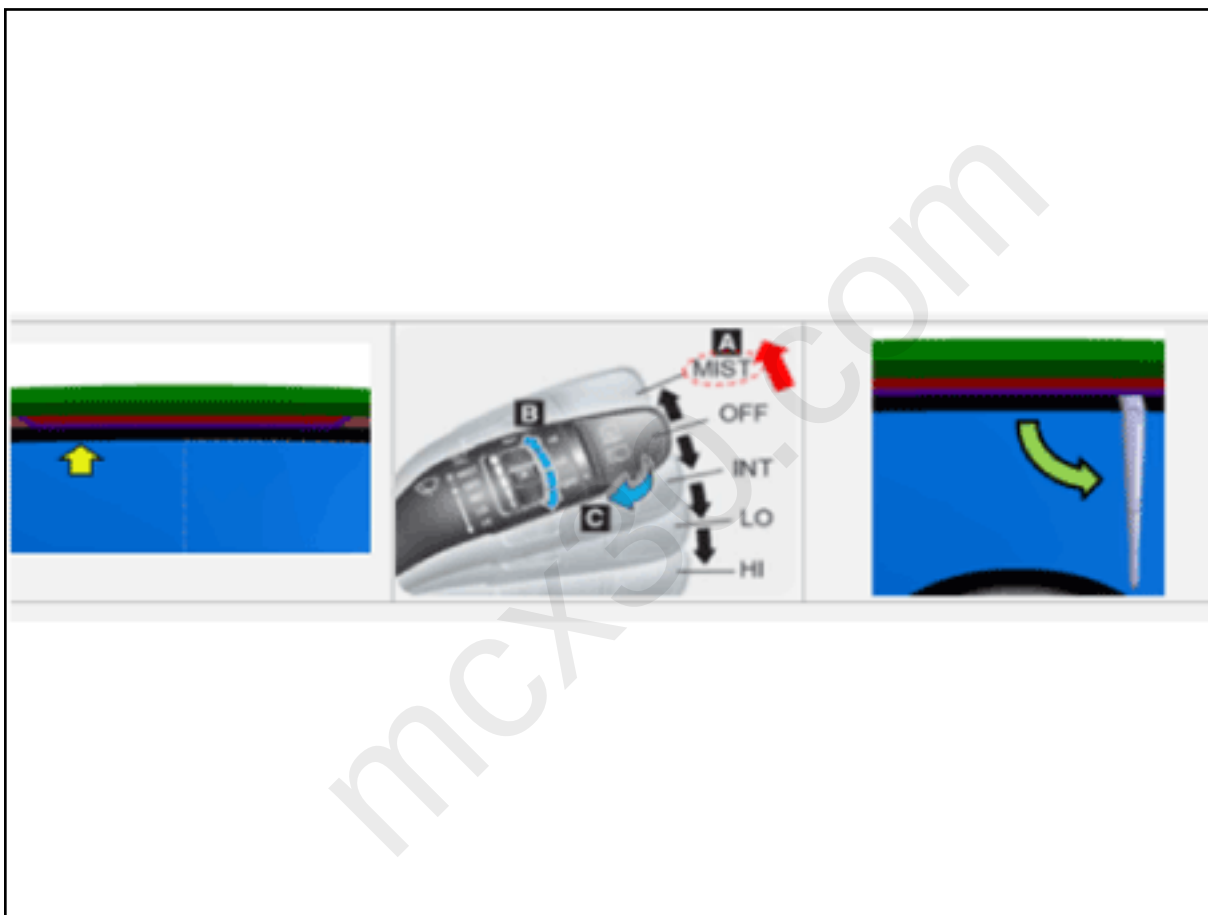


- Provides a service position for blade removal with hidden rear wiper.
- The position of the wiper blade service position operates front and rear.

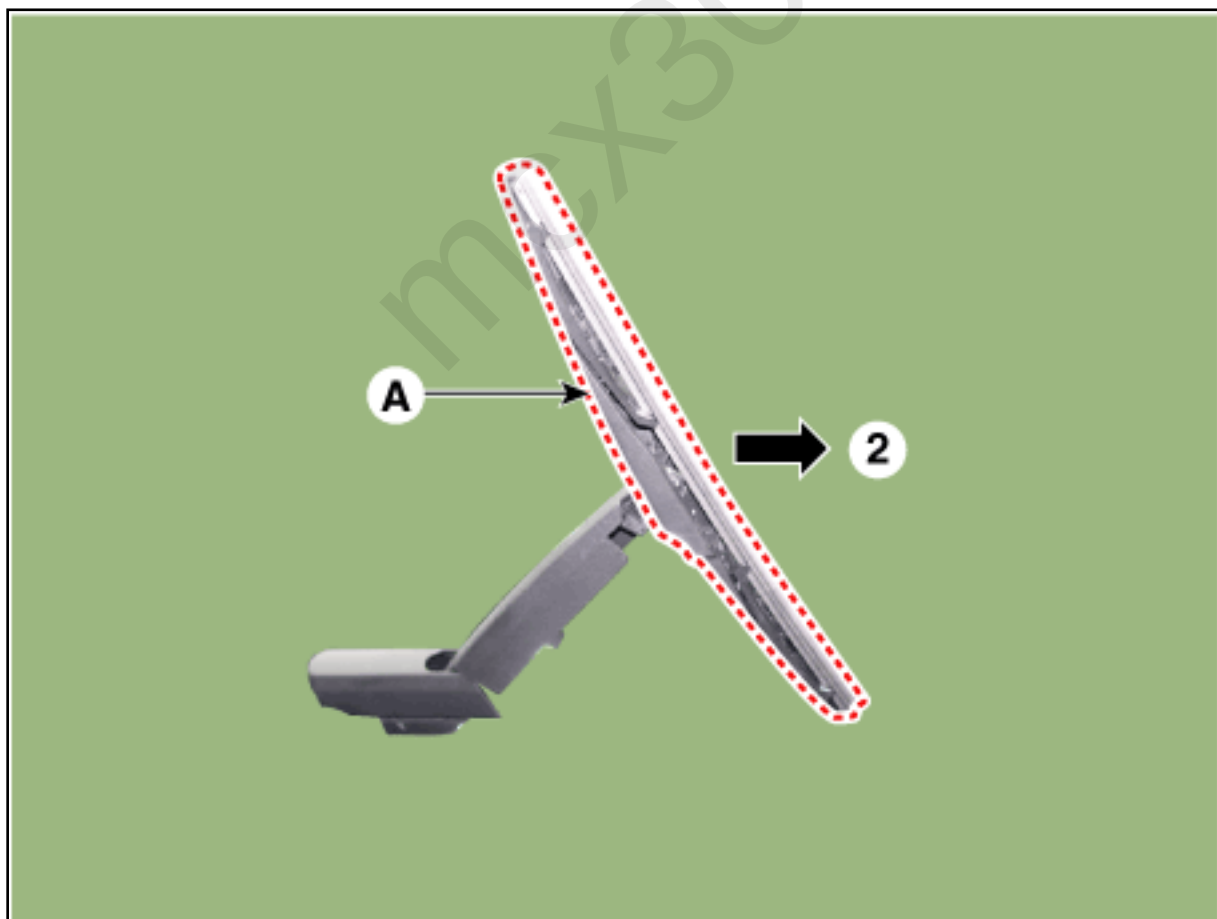
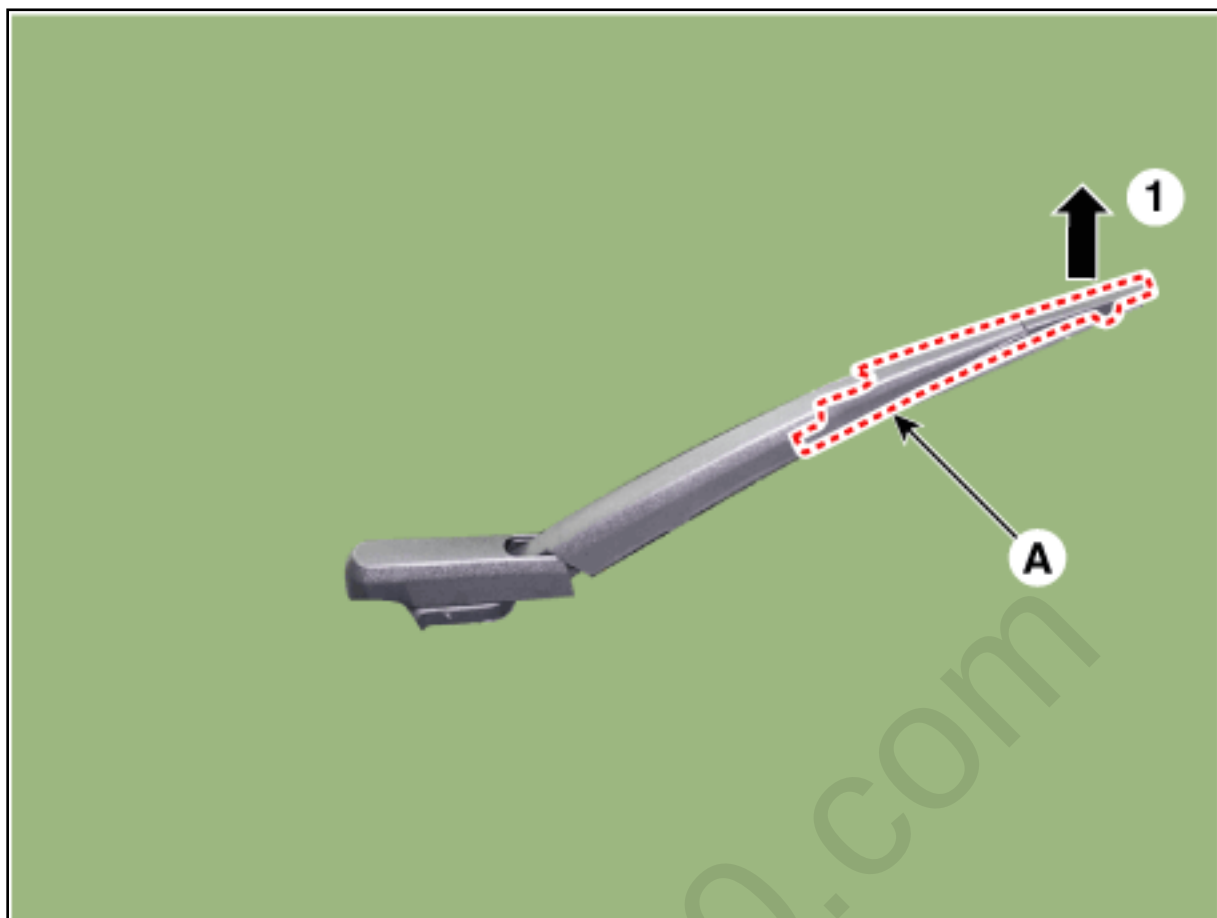
1. After starting OFF, hold the MIST switch for 2 seconds.



- Perform the operation within 20 seconds after starting OFF.
- The wipers rotate 0.7s and move to the service position.



2. Remove the wiper blade (A) by pulling it in the direction of the arrow.



Installation

1. Install the wiper blade.
2. When the wiper MIST is activated after starting ON, the wiper returns to its original position.

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