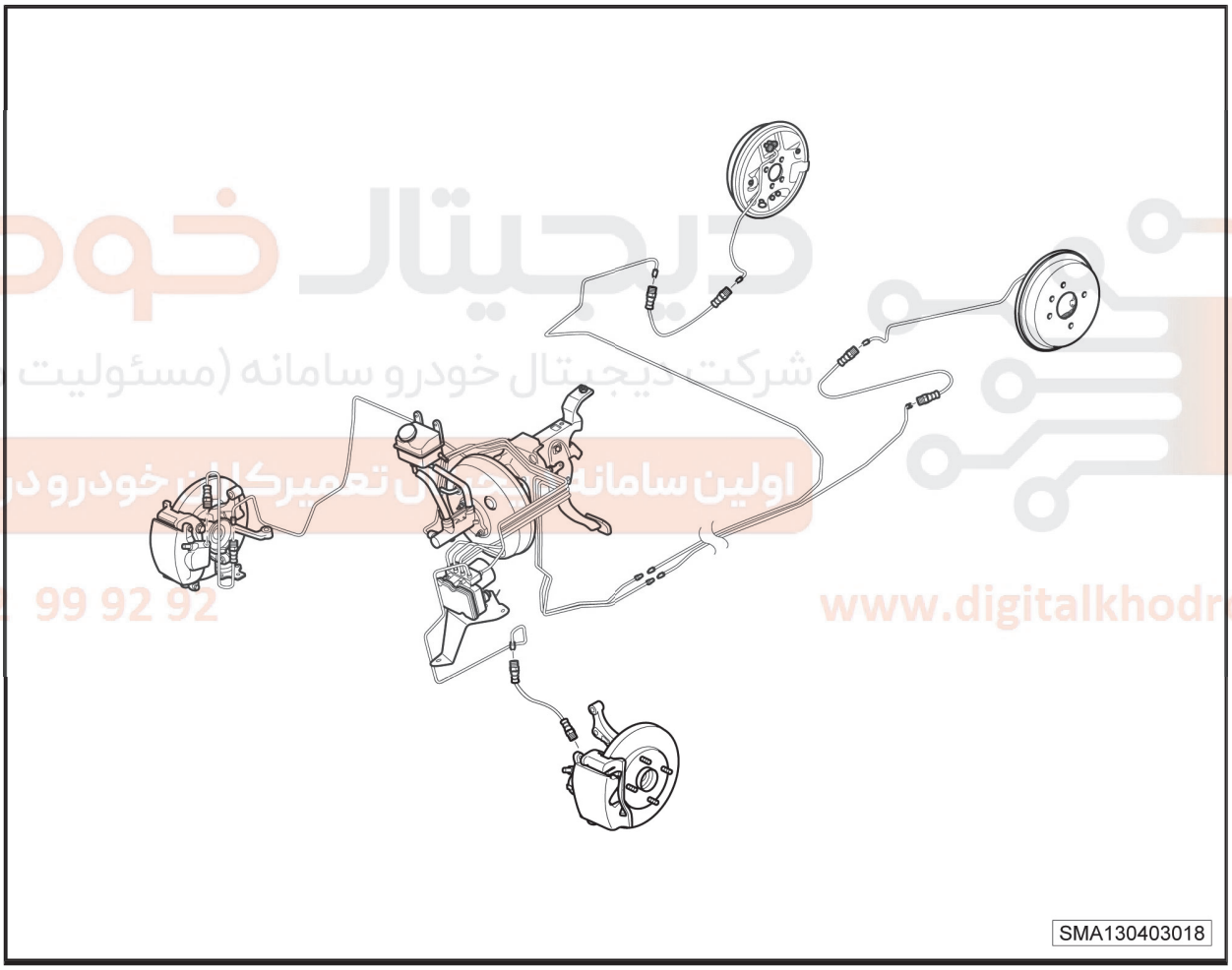
0403 Brake System

1 General Information

1.1 Overview

1.1.1 Regular brake system

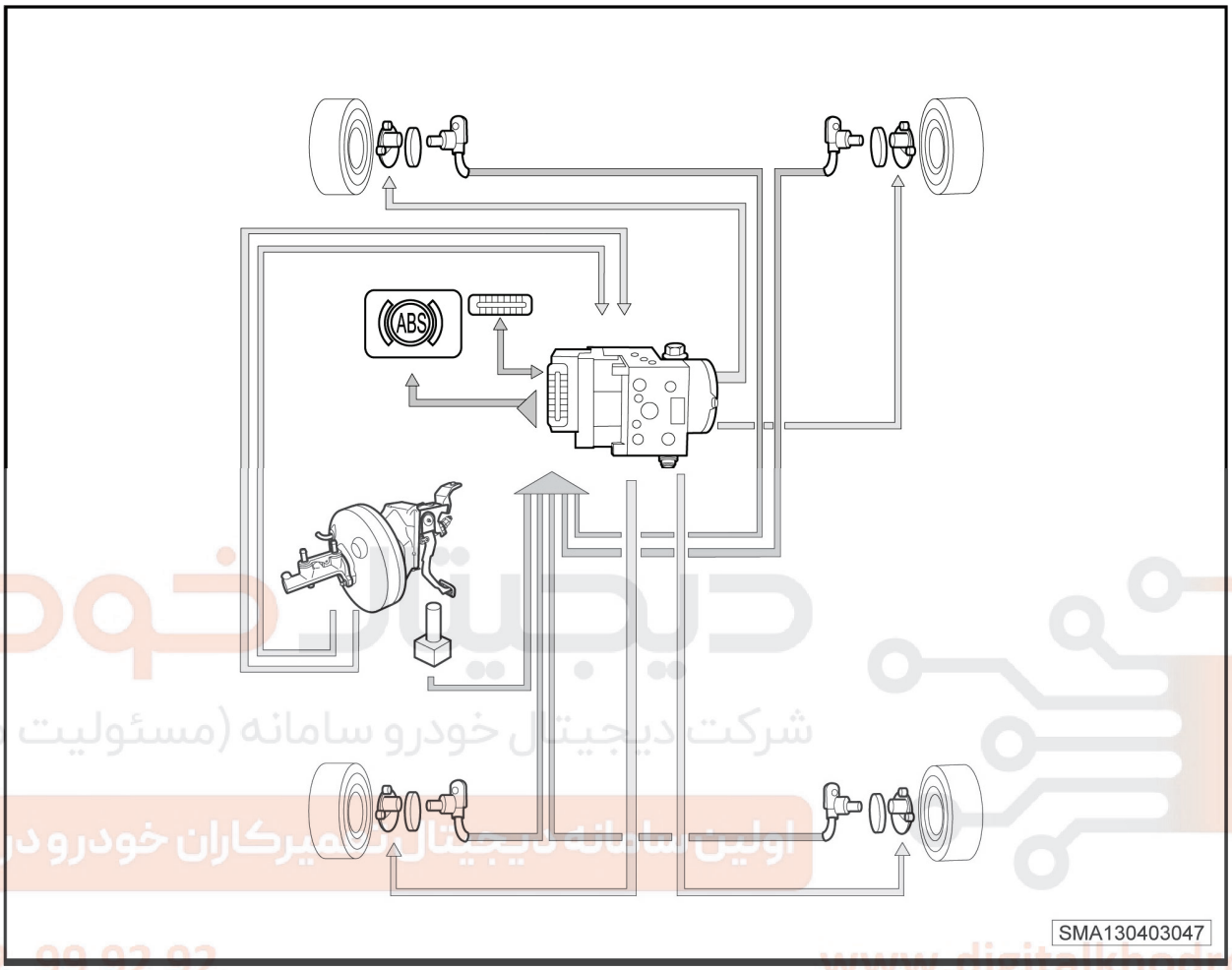


- The brake system of this model uses dual-line vacuum-assisted hydraulic brake system distributed diagonally.
- The brake system consists of driving brake and parking brake.
- Front-wheel brake uses disc brake and rear-wheel brake uses drum brake that can automatically adjust shoe clearance.
- Regular brake system consists of:

  a. Front brake assembly
  b. Rear brake assembly
  c. Brake pedal
  d. Brake master cylinder

e. Vacuum booster
f. Axle shaft

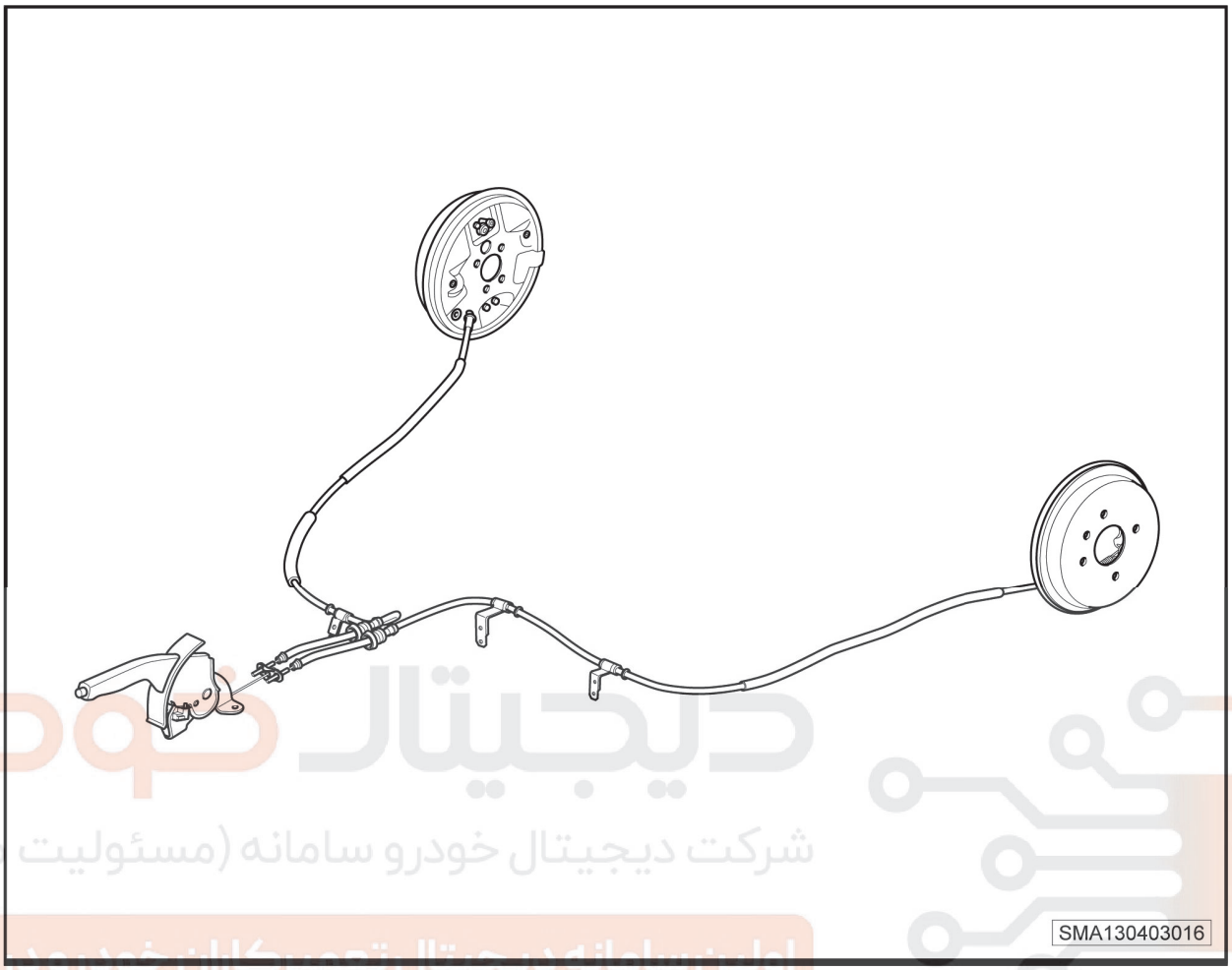
1.1.2 ABS (Anti-lock Brake System)



- The ABS of this model is arranged on the left side of the engine compartment.
- The basic working principle of ABS is as follows: when the vehicle is braking, the wheel speed sensor tests alternating voltage signal in proportion to the brake wheel speed and inputs the voltage signal to the electronic control module (ECM). The ECM arithmetic element figures out the wheel speed, slip rate, wheel acceleration and deceleration. Then the ECM control module analyzes and compares these signals and send brake pressure control command to the pressure regulator. The solenoid valve in the pressure regulator directly or indirectly controls brake pressure to adjust the brake torque and adapt it to ground adhesion to prevent the brake wheel from being locked.
- The function of ABS is to improve vehicle stability.
- ABS consists of:

a. ABS control unit
b. Wheel speed sensor
c. ABS indicator

1.1.3 Parking brake system



- Parking brake is used in parking vehicles.
- Parking brake is arranged between front seats. The cable with a sleeve featuring low friction resistance directly acts on the drum brake shoe lever of two rear wheels. The rear wheel brake concurrently acts as the parking brake, which features simple and practical structure and high efficiency.
- Parking brake system consists of:

  a. Parking brake
  b. Parking brake cable
  c. Rear brake assembly

1.2 Important notes

1. Please wear necessary protective facilities to avoid accidents.
2. Avoid inhaling brake pad dust because it is toxic.
3. Use a vacuum cleaner rather than compressed air or a brush to clean the brake assembly.
4. Never splash the brake fluid on the vehicle; otherwise, it may damage vehicle paintwork. If the brake fluid splashes on the paintwork, please rinse it with water immediately.
5. Wrap removed pipe connector with cloth or service fabric.
6. The brake disc and brake pad should abstain from grease or brake fluid.
7. After replacing the brake pad or brake shoe, check the brake fluid level.
8. Whenever the brake pad or brake shoe is replaced, the brake pad shall reach its corresponding positions at running state.
9. Check the pipe and pipe connector for leakage. Retighten them if necessary.
10. Only use the brake fluid approved by Chery Automobile Co., Ltd.; otherwise, it may lead to pipe corrosion and shorten the service life of the brake system.
11. When removing and installing elastic elements, prevent them from ejecting in case they hurt bodies.
12. When removing and installing parts around the exhaust pipe, you shall not operate until the exhaust pipe temperature drops to normal to avoid scald.
13. After replacing or removing the parking brake cable, adjust the parking brake.

1.3 Product specifications

Torque specifications

Component	Torque (N·m)
Tire nut	110±10
Front axle shaft nut	270±20
Front brake caliper fixing bolt	22±1
Front brake caliper bracket fixing bolt	85±5
Coupling bolt between the ABS control unit and the mounting bracket	10±1
Coupling bolt between the ABS control unit mounting bracket and the vehicle body	10±1
Coupling nut between the ABS control unit mounting bracket and the vehicle body	10±1
Brake pedal fixing nut	25±3
Fixing nut of the rear wheel hub bearing	230±10
Brake master cylinder fixing nut	23±1
Brake pipe coupling bolt	18±1
Wheel speed sensor fixing bolt	10±1
Parking brake fixing nut	22±2

Front wheel and rear wheel brake assemblies

Component	Specifications	Service limit value
Front brake pad	11 mm	2.5 mm
Front brake disc	22 mm	20 mm
Rear brake shoe	5 mm	3 mm

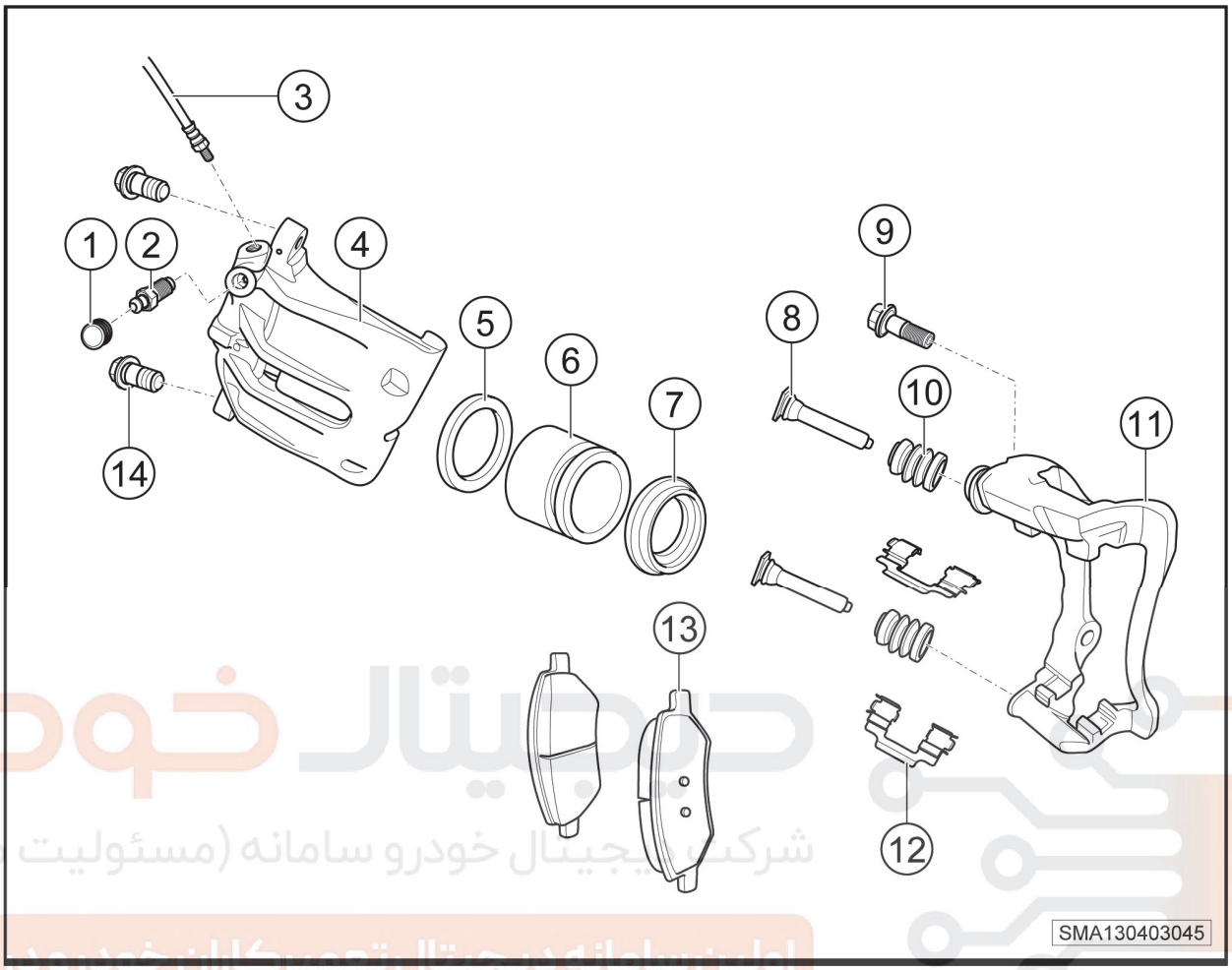
Brake fluid specifications

Item	Type
Brake fluid	DOT4

Standard value of parking brake lever travel

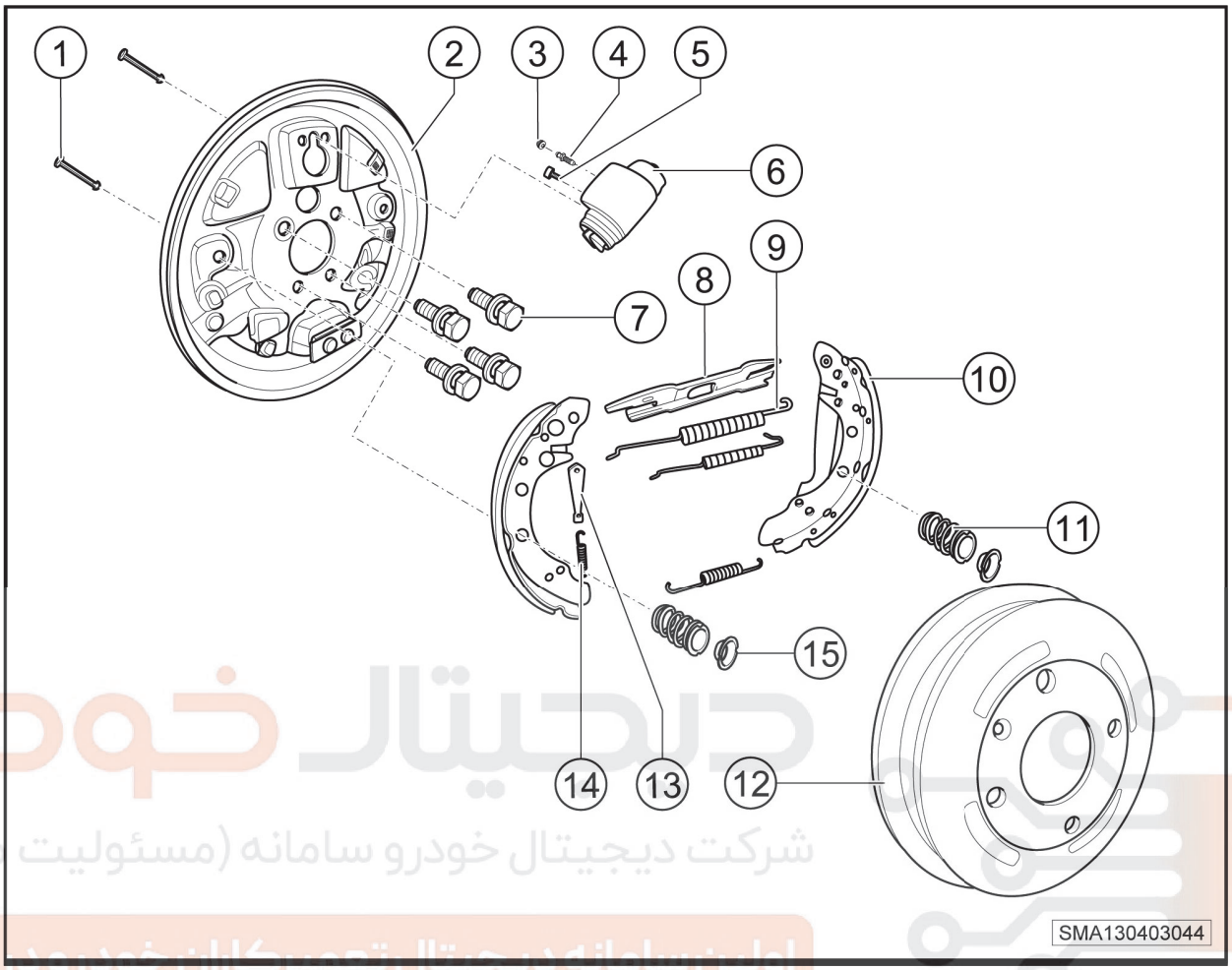
Condition	Travel
400 N	6 grids

1.4 The front wheel brake assembly drawing



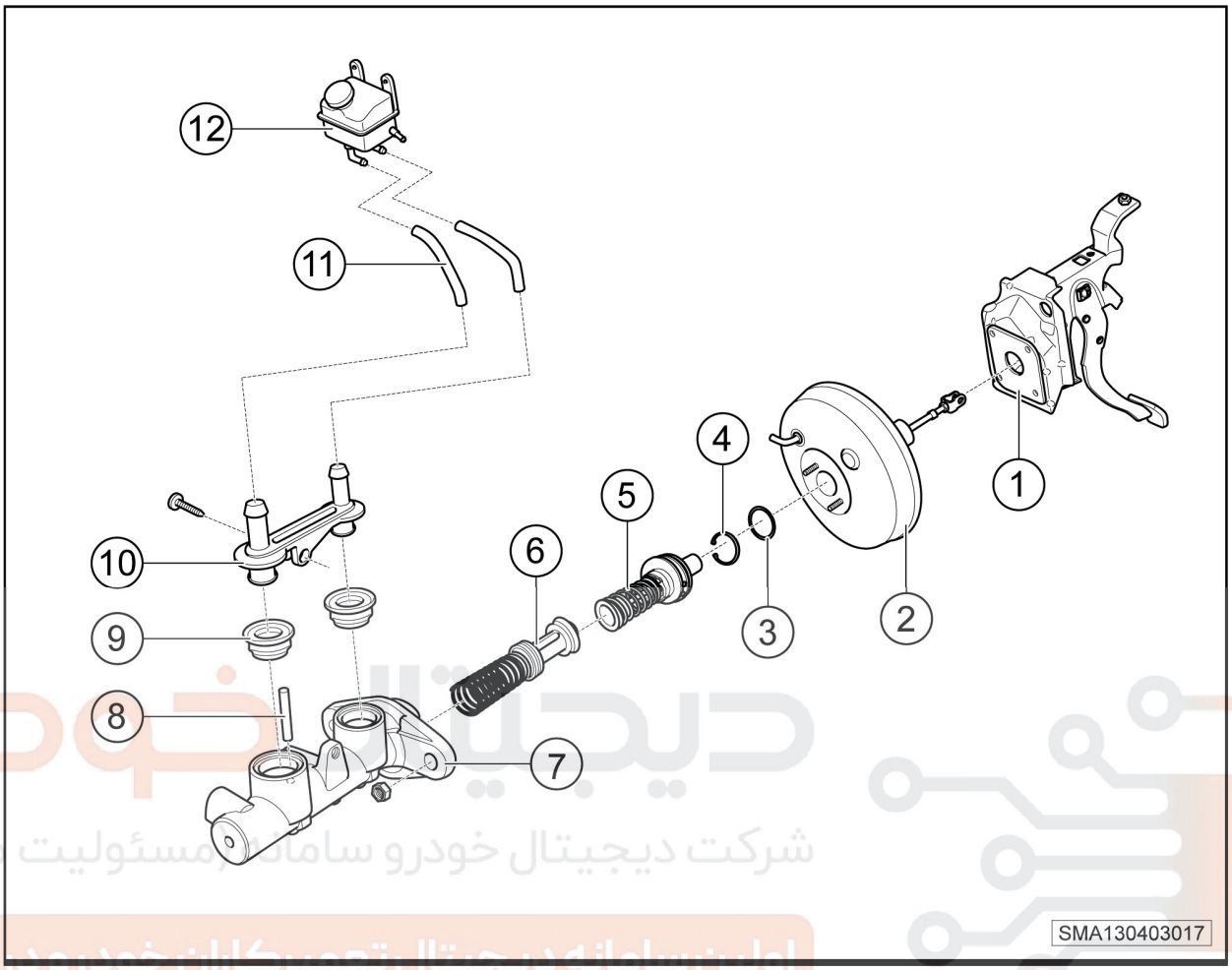
1. Front exhaust port cover	2. Front exhaust port screw
3. Front brake oil pipe	4. Front brake caliper
5. Front brake caliper piston oil seal	6. Front brake caliper piston
7. Front brake caliper piston dust cover	8. Front brake caliper pin
9. Front brake caliper bracket fixing bolt	10. Front brake caliper pin dust cover
11. Front brake caliper bracket	12. Front brake pad guard base
13. Front brake pad	14. Front brake caliper fixing bolt

1.5 The rear wheel brake assembly drawing



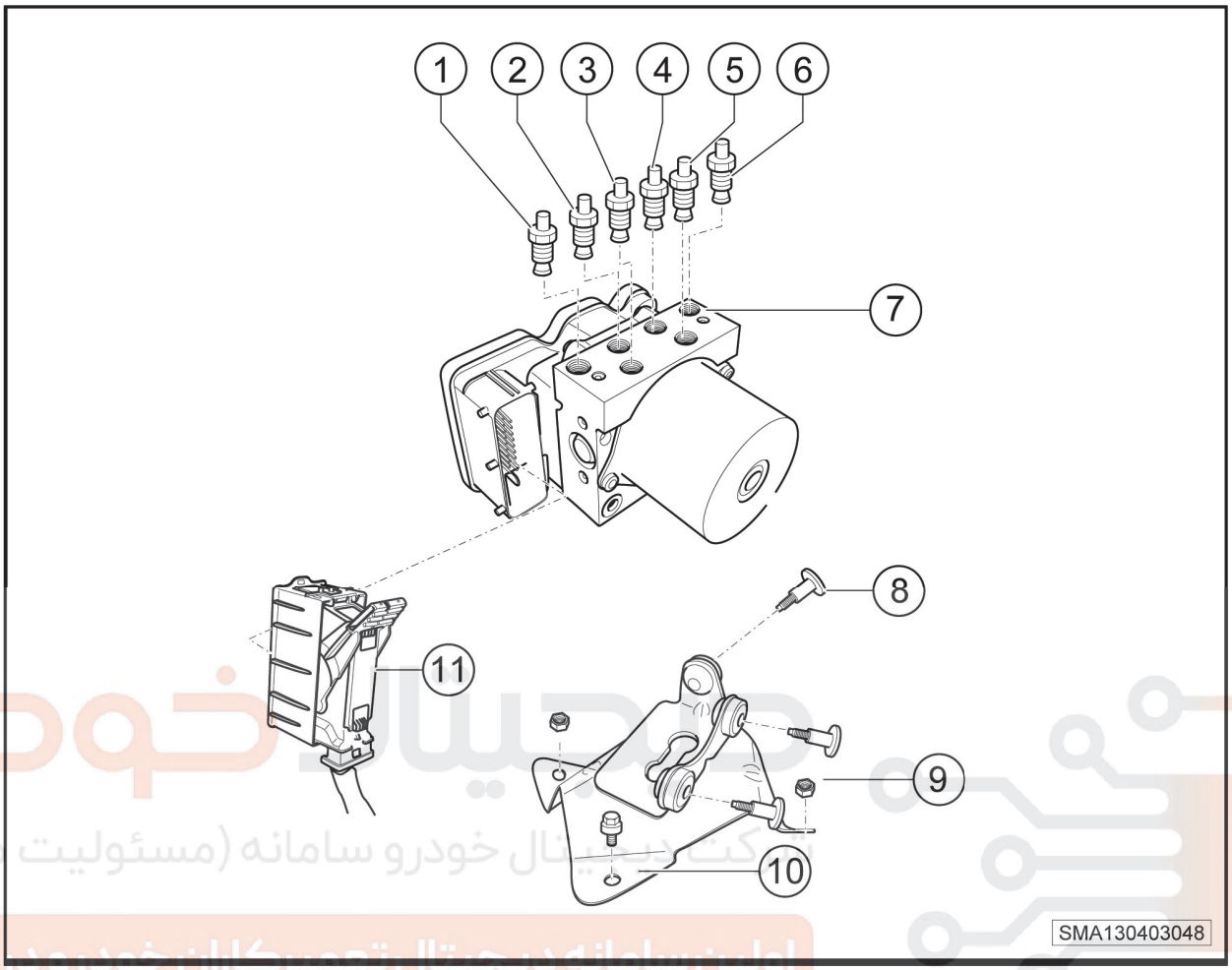
1. Retaining spring lock pin	2. Rear brake splash guard
3. Rear brake exhaust port cover	4. Rear brake exhaust port screw
5. Rear wheel cylinder fixing bolt	6. Rear wheel cylinder
7. Rear main shaft fixing bolt	8. Rear brake wedge
9. Coupling spring between the rear brake shoe and the rear brake wedge	10. Rear brake shoe
11. Rear brake shoe retaining spring	12. Rear brake drum
13. Automatic adjusting block	14. Automatic adjusting block spring
15. Retaining spring lock pin base	

1.6 The regular brake assembly drawing



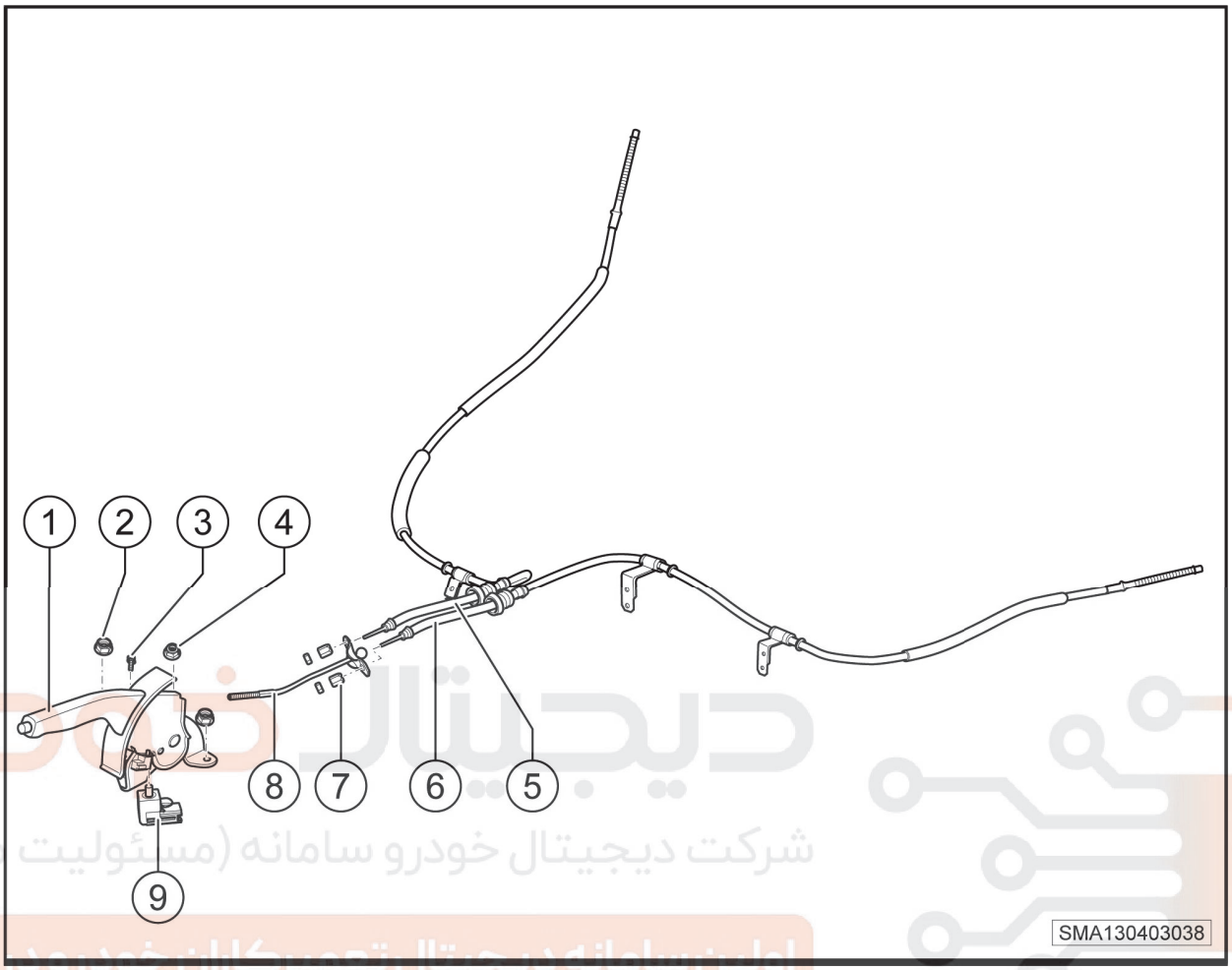
1. Brake pedal assembly	2. Vacuum booster
3. Brake master cylinder end face seal ring	4. Brake master cylinder secondary piston stop ring
5. Brake master cylinder secondary piston	6. Brake master cylinder primary piston
7. Brake master cylinder	8. Brake master cylinder primary piston lock pin
9. Seal ring between the brake master cylinder and the oil pipe adapter	10. Brake oil pipe adapter
11. Brake oil pipe	12. Brake fluid reservior

1.7 The ABS control unit assembly drawing



1. Connecting the front left wheel	2. Connecting the rear right wheel
3. Connecting the brake pump	4. Connecting the rear left wheel
5. Connecting the brake pump	6. Connecting the front right wheel
7. ABS control unit	8. Coupling bolt between the ABS control unit and the mounting bracket
9. Fixing nut of the ABS control unit mounting bracket	10. ABS control unit mounting bracket
11. ABS control unit connector	

1.8 The parking brake assembly drawing



1. Parking brake lever	2. Parking brake fixing nut
3. Parking brake switch fixing bolt	4. Parking brake parking adjustment nut
5. Right parking brake cable	6. Left parking brake cable
7. Parking brake cable adjustment nut	8. Parking brake parking adjustment cable
9. Parking brake switch	

2 Regular Brake Diagnosis and Inspection

2.1 Brake fault diagnosis list

Item	Possible causes	Troubleshooting
Braking deviation	Incorrect tire pressure	Adjust the tire pressure
	Abnormal tire wear	Replace the tires
	Abnormal brake pad wear	Replace the brake pad
	Abnormal brake disc wear	Replace the brake disc
	Abnormal brake shoe wear	Replace the brake shoe
	Blockage or leakage of the brake pipe	Replace the brake pipe
	Brake caliper piston jamming	Replace the brake caliper
	Failure of the ABS control unit	Rectify the fault according to the fault code
Poor parking brake	Excessive parking brake lever travel	Adjust parking brake lever travel
	Abnormal brake shoe wear	Replace the brake shoe
	Parking brake cable rupture	Replace the parking brake cable
	Parking brake cable disengagement	Reinstall the parking brake cable
Abnormal noise of brake	Abnormal brake pad wear	Replace the brake pad
	Brake pad worn to limit	Replace the brake pad
	Abnormal brake shoe wear	Replace the brake shoe
	Brake shoe worn to limit	Replace the brake shoe
	Foreign matters on the working surface of the brake pad	Remove the foreign matters
	Abnormal brake disc wear	Replace the brake disc
Inadequate brake force	Inadequate or contaminated brake fluid	Add or replace the brake fluid
	Brake pipe leakage	Replace the brake pipe
	Unwanted air in the brake system	Exhaust air in the brake system
	Failure of the brake vacuum booster	Check the brake vacuum booster
	Grease on the surface of the brake disc or brake shoe	Rinse the surface
	Overheated brake disc or brake drum due to braking drag	Check the brake system

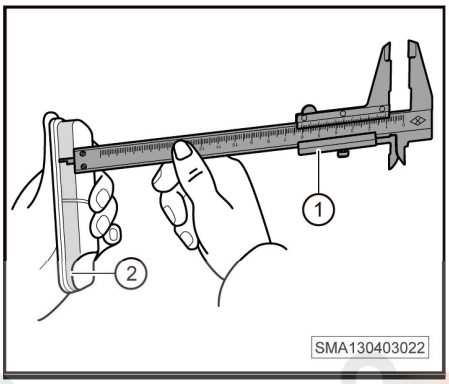
2.2 Checking the front brake pad and the rear brake shoe

Inspection

1. Check the front brake pad and the rear brake shoe for oil stains. If oil stains are present, remove them immediately.
2. Check the front brake pad and the rear brake shoe for cracks and disengagement. If cracks or disengagement are present, replace the brake pad or brake shoe.

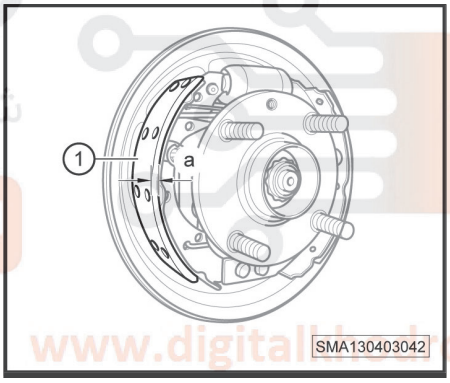
3. Check the thickness of the front brake pad (-2-) with the vernier (-1-). If the thickness is beyond the specified value, replace the brake pad.

   Brake pad wear limit: 2.5 mm



4. Check the thickness (-a-) of the rear wheel brake shoe (-1-). If the thickness is beyond the specified value, replace the brake shoe.

   Brake shoe wear limit: 3 mm



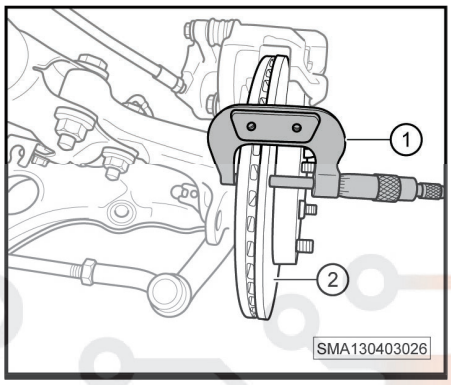
2.3 Checking the front brake disc and the rear brake drum

Inspection

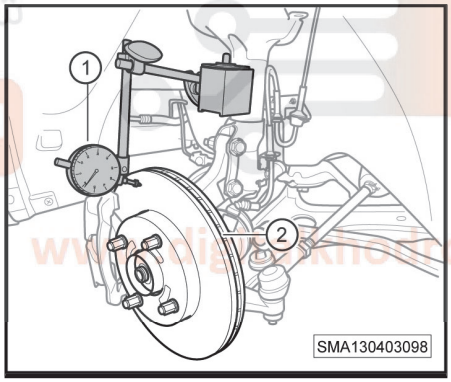
1. Check the brake disc and the brake drum for oil stains. If oil stains are present, remove them immediately.
2. Check the brake disc and the brake drum for cracks, corrosion and severe damage. If cracks, corrosion and severe damage are present, replace the brake disc or brake drum.
3. Check the working surface of the brake disc or brake drum for grooves. If grooves are present, replace the brake disc or brake drum.

4. Measure the thickness of the brake disc (-2-) with a micrometer (-1-). If the thickness is beyond the specified value, replace the brake disc.

   Use limit of the front wheel brake disc: 20 mm

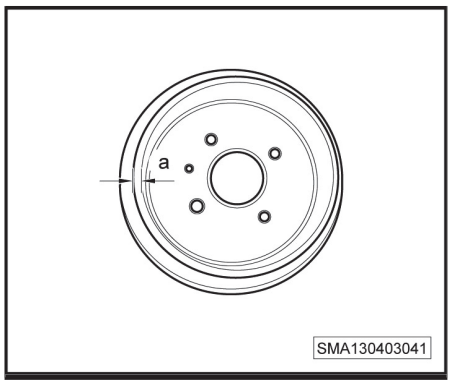


5. Measure the surface runout of the brake disc (-2-) with a micrometer (-1-). If the surface runout of the brake disc exceeds 0.025 mm, replace the brake disc.



6. Check the brake drum thickness (-a-). If the thickness is beyond the specified value, replace the brake drum.

   Use limit of the brake drum thickness: 5.5 mm



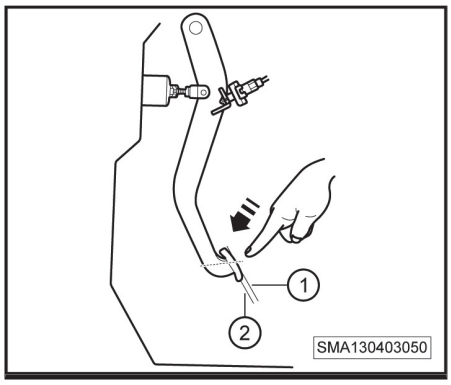
2.4 Checking and adjusting the brake pedal free travel

Checking the brake pedal free travel

1. Stall the engine and press the pedal for several times until vacuum is absent in the vacuum booster.

2. Manually press the brake pedal when it is at the natural position (-1-) to a position (-2-) where resistance begins to be felt. The brake pedal free travel is the distance from position (-1-) to position (-2-).

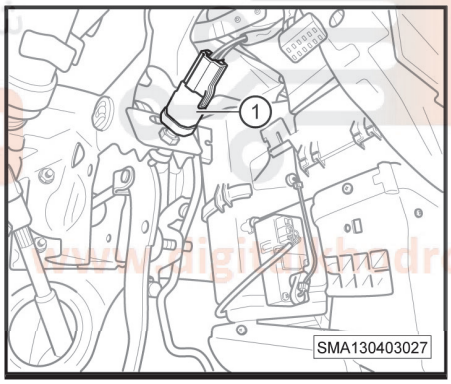
   Standard value of the brake pedal free travel: 3 mm – 5 mm



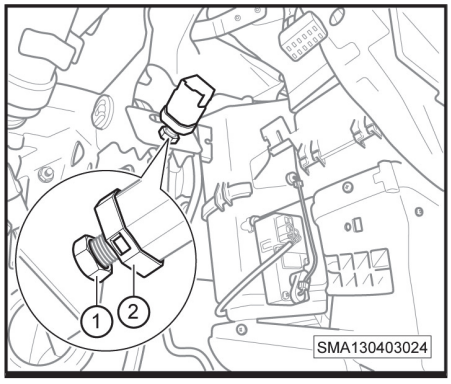
Adjusting the brake pedal free travel

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.

3. Disconnect the brake switch connector (-1-).



4. Loosen the brake switch lock nut (-1-) and rotate the brake switch nut (-2-) until the free travel meets the specified value.



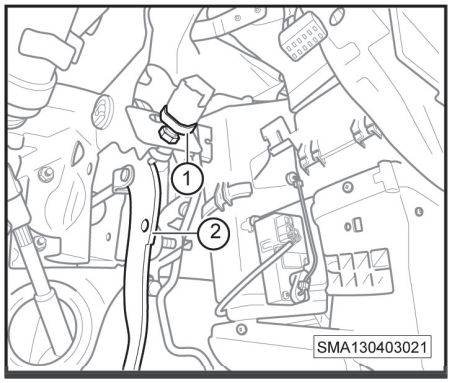
5. Installation shall follow the reverse sequence of the removal procedure.

2.5 Checking and adjusting the brake pedal height

Checking the brake pedal height

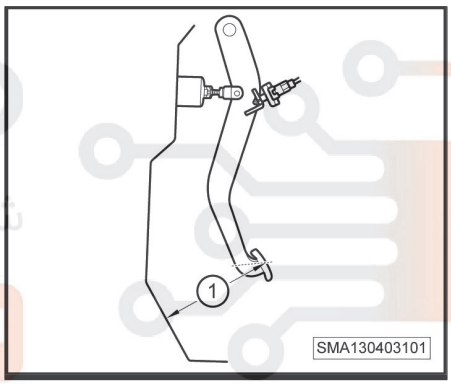
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.

3. Unscrew the brake switch nut (-1-) to make it cease to contact the brake pedal (-2-).



4. Lift the carpet. The pedal height equals the distance from the cabin floor to the pedal center point (-1-).

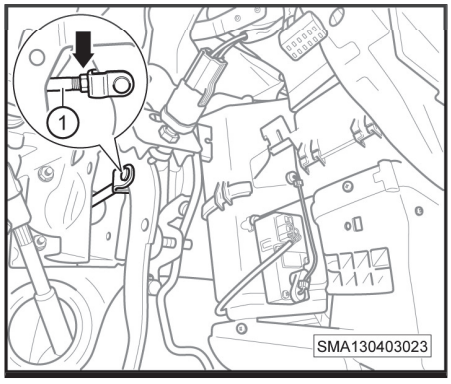
   Standard value of the brake pedal height: 129.3 mm



Adjusting the brake pedal height

1. Loosen the brake pushrod lock nut (-arrow-) and rotate the brake pushrod (-1-) to make the brake pedal height reach the standard value.

   Standard value of the brake pedal height: 129.3 mm

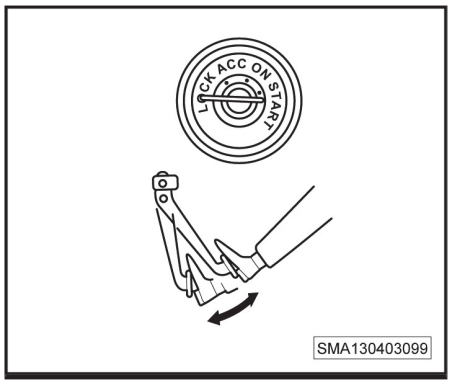


2. Tighten the brake pushrod lock nut.

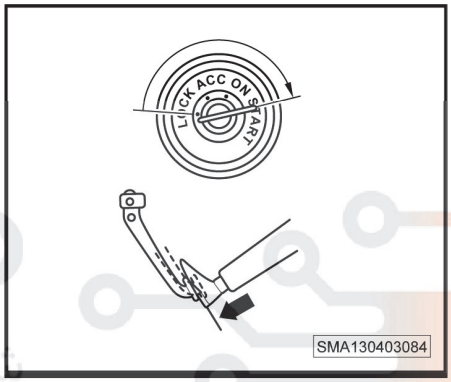
2.6 Checking the vacuum booster

Checking the functions

1. Before starting the engine, press the brake pedal for several times and check the pedal height, which should remain unchanged.

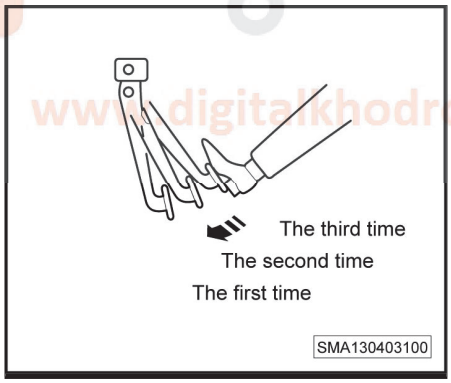


2. Press the brake pedal and start the engine. If the brake pedal sinks slightly, it indicates the vacuum booster works normally.

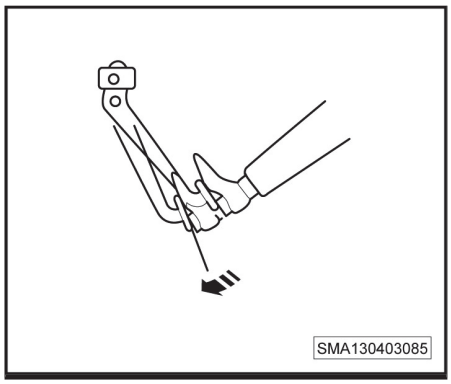


Checking the airtightness

1. Switch off the engine 1 to 2 minutes after starting the engine. Slowly press the brake pedal for several times (first, second and third time), and the brake pedal gradually rises, which indicates the vacuum booster has sound airtightness.



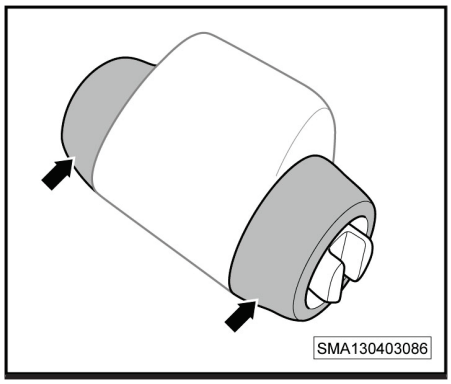
2. When the engine is running, press the brake pedal and then switch off the engine. If the pedal height remains unchanged within 30 seconds, it indicates the vacuum booster has sound airtightness. If it continues to sink, it indicates the vacuum booster has poor airtightness and needs repairing.



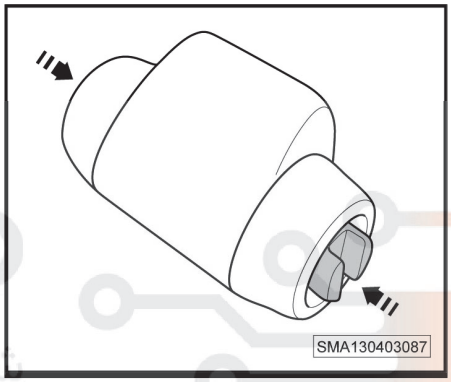
2.7 Checking the rear wheel cylinder

Inspection

1. Check the rear wheel cylinder for leakage and the dust cover (-arrow-) for damage.

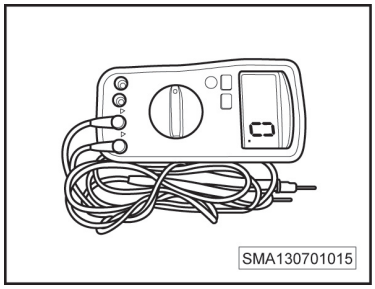


2. Manually compress both sides of the rear wheel cylinder in the (-arrow-) direction and check the functions of the rear wheel cylinder piston.



2.8 Checking the parking brake switch

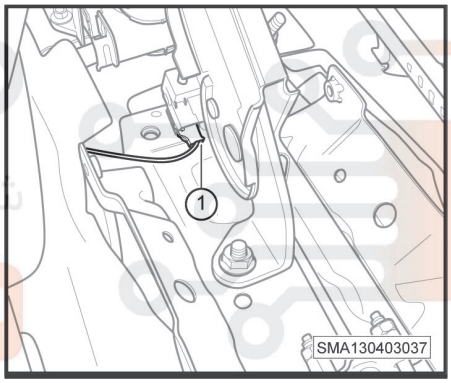
Maintenance tools and common equipment

	
Multimeter	

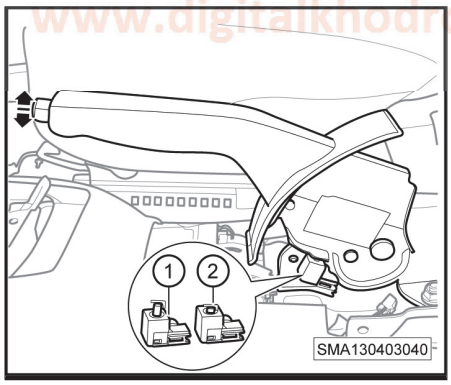
Inspection

1. Remove the console.=> refer to page 825

2. Disconnect the parking brake switch connector (-1-).



3. Operate the parking brake lever up and down in the (-arrow-) direction and check the conduction between the parking brake switch terminal and the body ground.
   - When the parking brake lever is raised, the parking brake switch (-1-) terminal and the body ground are conducted; otherwise, the parking brake switch malfunctions.
   - When the parking brake lever is lowered, the parking brake switch (-2-) terminal and the body ground are not conducted; otherwise, the parking brake switch malfunctions.



4. After checking, connect the parking brake switch connector.
5. Install the console .=> refer to page 825

2.9 Adjusting the parking brake

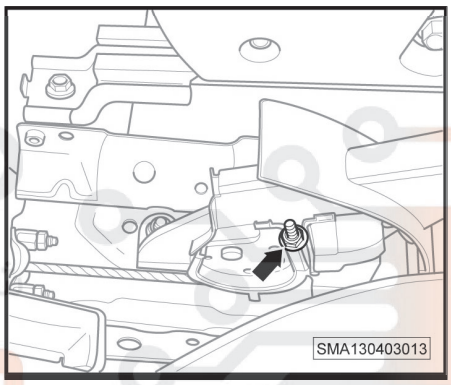
Caution

- Before adjusting the parking brake, loosen the parking brake adjustment nut, start the engine and press the brake pedal for several times so as to adjust the brake shoe free clearance.
- After adjusting the parking brake, check for braking drag.

Standard value of the parking brake lever travel

Condition	Travel
400 N	6 grids

1. Lift the vehicle safely.
2. Remove the console .=> refer to page 825
3. Raise the parking brake lever for one grid.
4. Rotate the parking brake adjustment nut (-arrow-). When rotating rear wheels, there is slight braking drag.

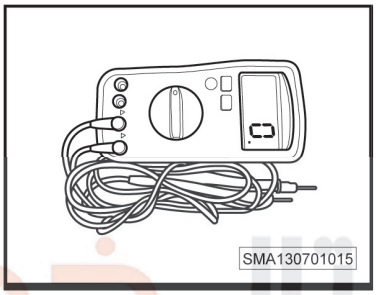
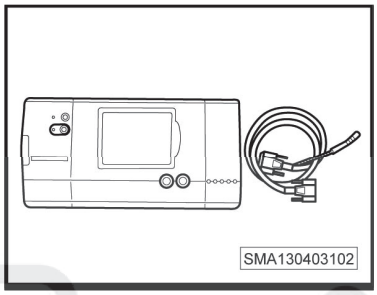


5. Completely loosen the parking brake lever and confirm there is not braking drag. Readjust it if necessary.
6. Make sure that the parking brake lever is within the specified travel and the parking brake works normally.
7. Install the console .=> refer to page 825

3 ABS Diagnosis and Inspection

3.1 Diagnostic tips

Maintenance tools and common equipment

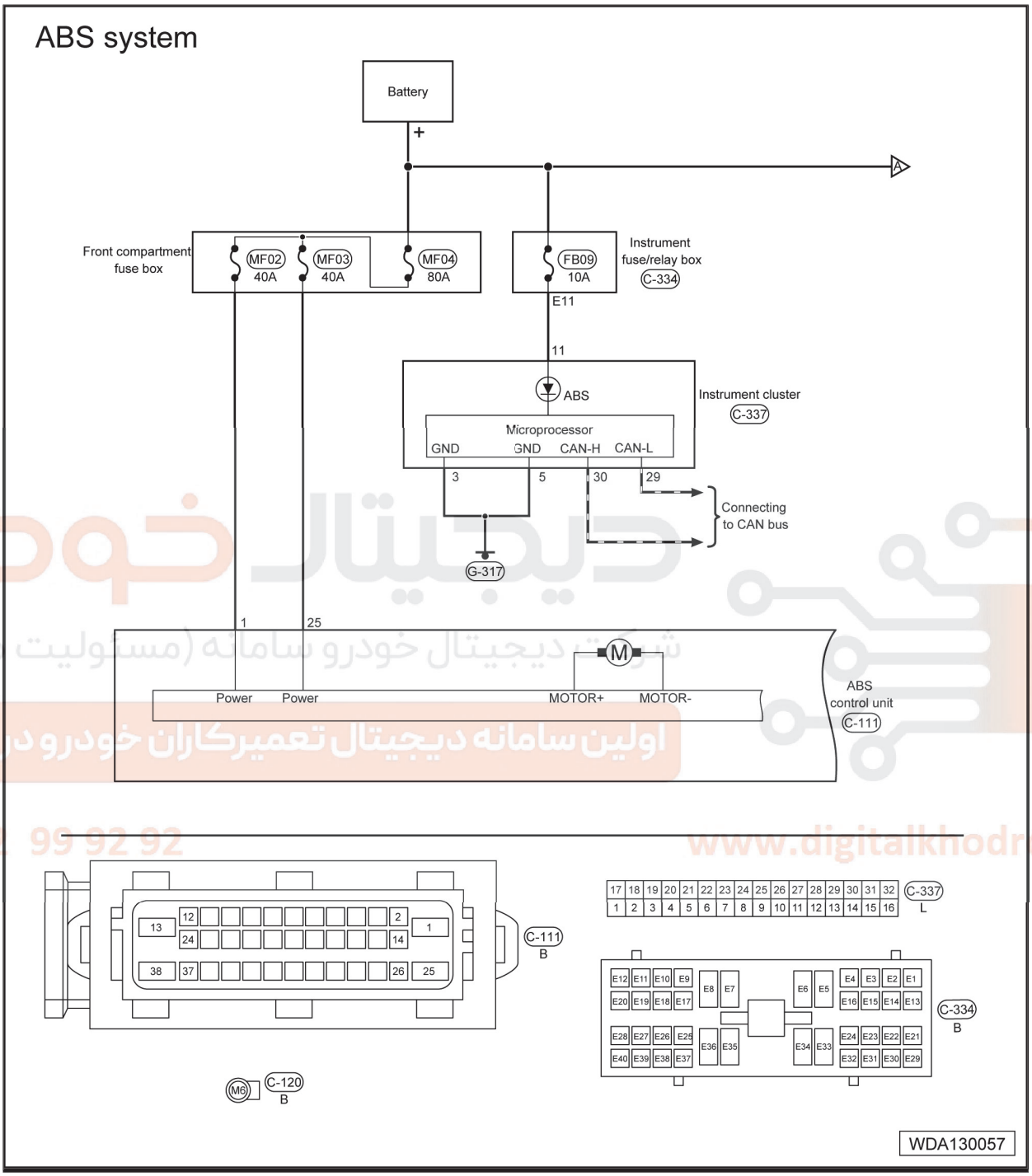
	
Multimeter	X-431 diagnostic device

Diagnostic procedures:

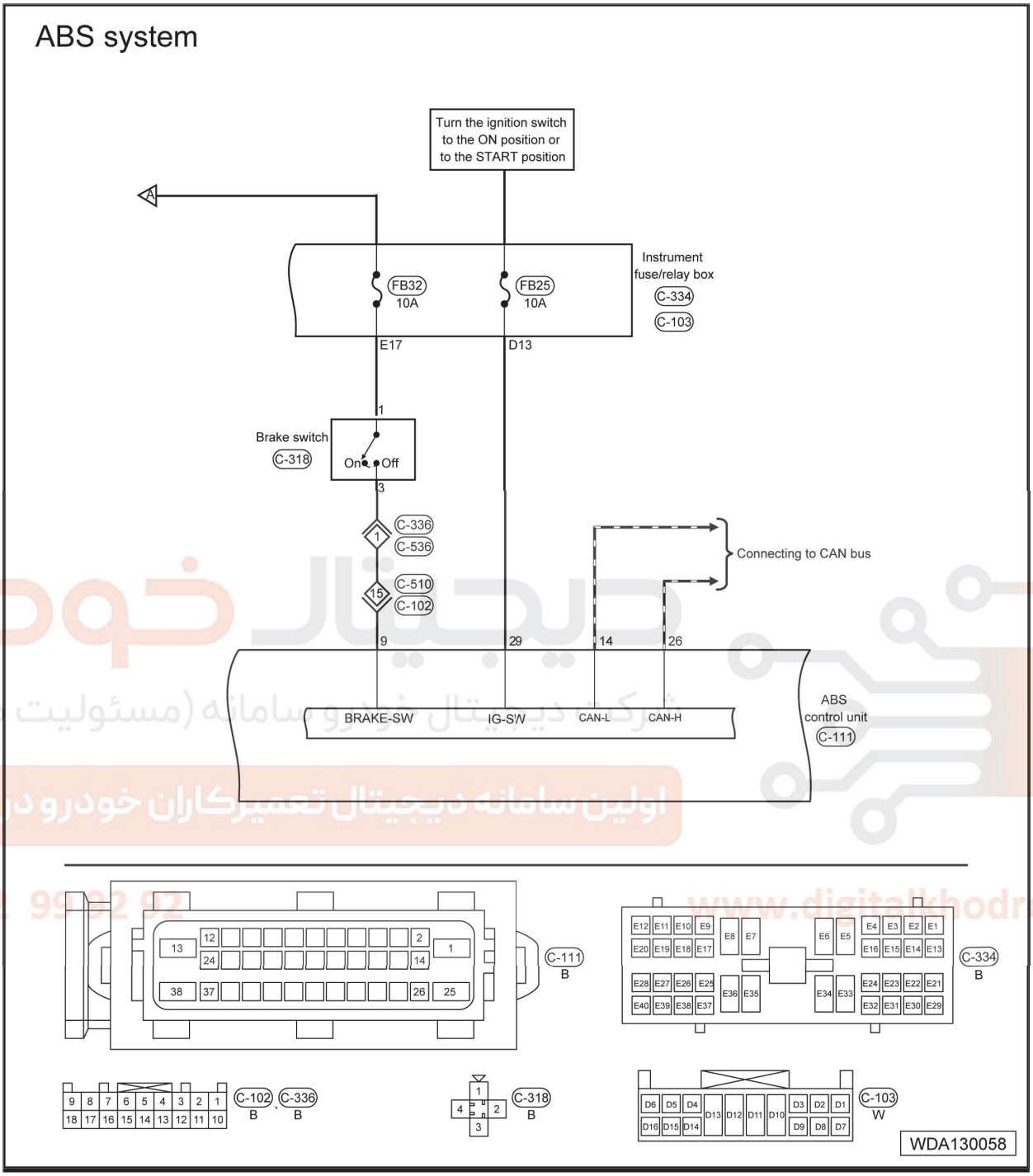
1. Confirm the battery voltage is normal.
2. Turn off the ignition switch.
3. Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
4. Turn on the ignition switch.
5. Measure and clear the DTC with the diagnostic device.
6. Turn off the ignition switch and turn it on again after 3 to 5 seconds.
7. Measure the DTC with the diagnostic device.
8. If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
9. If no DTC is detected, it indicates that the previously detected faults are sporadic .

3.2 ABS circuit diagram

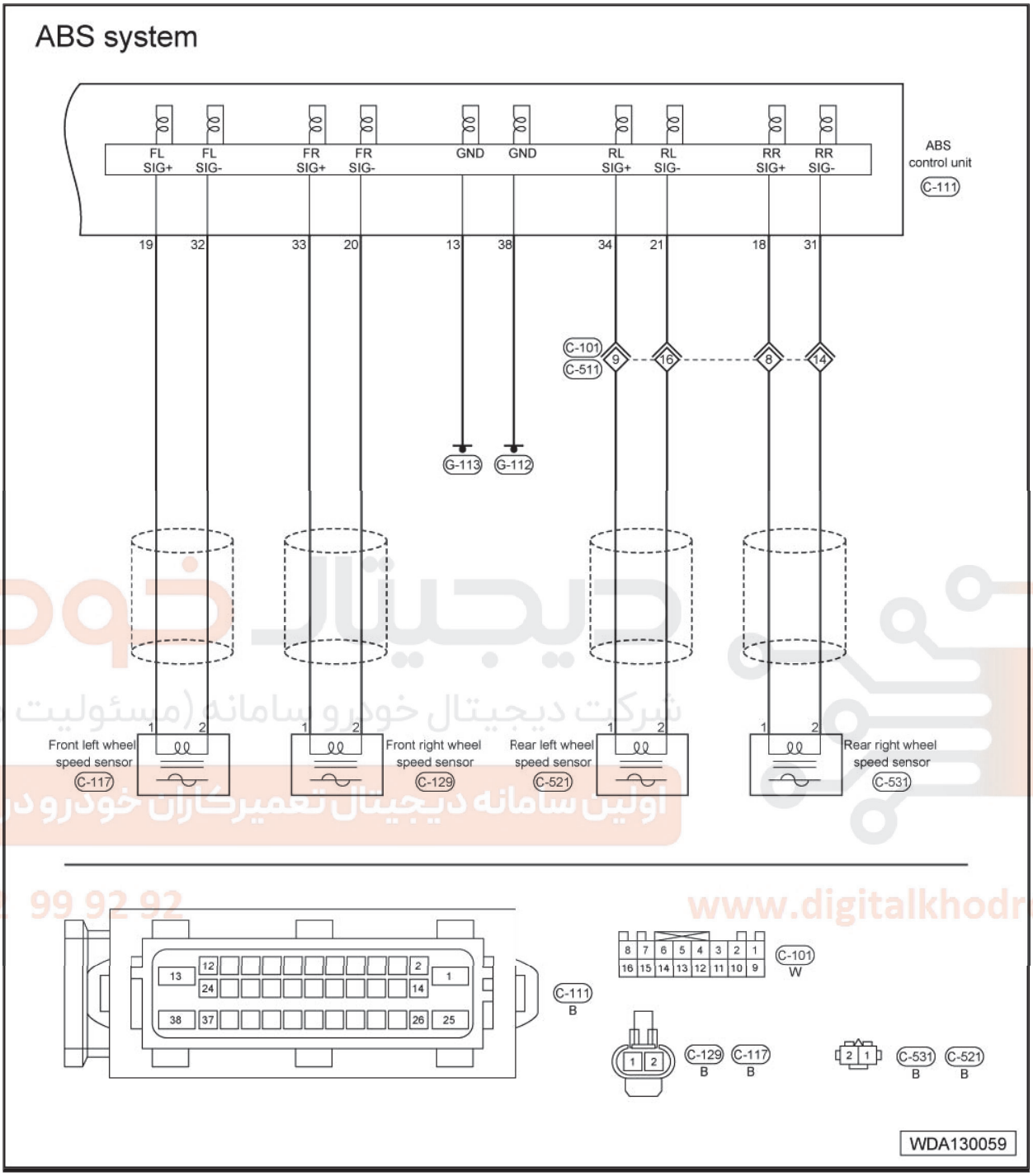
ABS circuit diagram (page 1)



ABS circuit diagram (page 2)



ABS circuit diagram (page 3)



3.3 Inspection of sporadic ABS faults

If the sporadic DTC faults occur, please check the following items:

- Check if the connector of the DTC-related actuator or sensor is properly installed.
- Check the connector pins of the actuator or sensor for leakage and corrosion.
- Check the leads for bending or squeezing.
- Check the sensor for dirt or damage.
- Check if the routing of wiring harness is correct and proper.

3.4 ABS fault list

Item	Possible causes	Troubleshooting
No signal in ABS	Failure of ABS	Replace the ABS control unit
	Melted ABS fuse	Replace the ABS fuse
	Failure of the circuit or connector	Replace the wiring harness or connector
The ABS indicator lights up after the engine starts	Failure of the ABS indicator circuit	Repair the circuit
	Failure of ABS	Replace the ABS control unit
	Failure of the wheel speed sensor wiring harness	Replace the wheel speed sensor wiring harness
	Improper installation of the wheel speed sensor	Adjust the wheel speed sensor
	Lower brake fluid level	Add the brake fluid
When the ignition switch is at the ON position, the ABS indicator does not light up	Failure of the power circuit or connector	Replace the wiring harness or connector
	Melted ABS fuse	Replace the ABS fuse
	Failure of ABS	Replace the ABS control unit
	Failure of the ABS indicator	Replace the ABS indicator
Failure to communicate with the diagnostic device	Melted ABS fuse	Replace the ABS fuse
	Failure of the diagnostic device connecting wiring harness or connector	Replace the connecting wiring harness or connector
	ABS control unit damage	Replace the ABS control unit
	Failure of the diagnostic device	Repair the diagnostic device
Abnormal working of ABS	Improper installation of the sensor	Reinstall the sensor
	Failure of the sensor wiring harness	Replace the sensor wiring harness
	Sensor damage	Replace the sensor
	Gear ring damage	Replace the gear ring
	Foreign matters on the sensor	Remove the foreign matters or replace the sensor
	Wheel bearing damage	Replace the wheel bearing
	ABS control unit damage	Replace the ABS control unit assembly

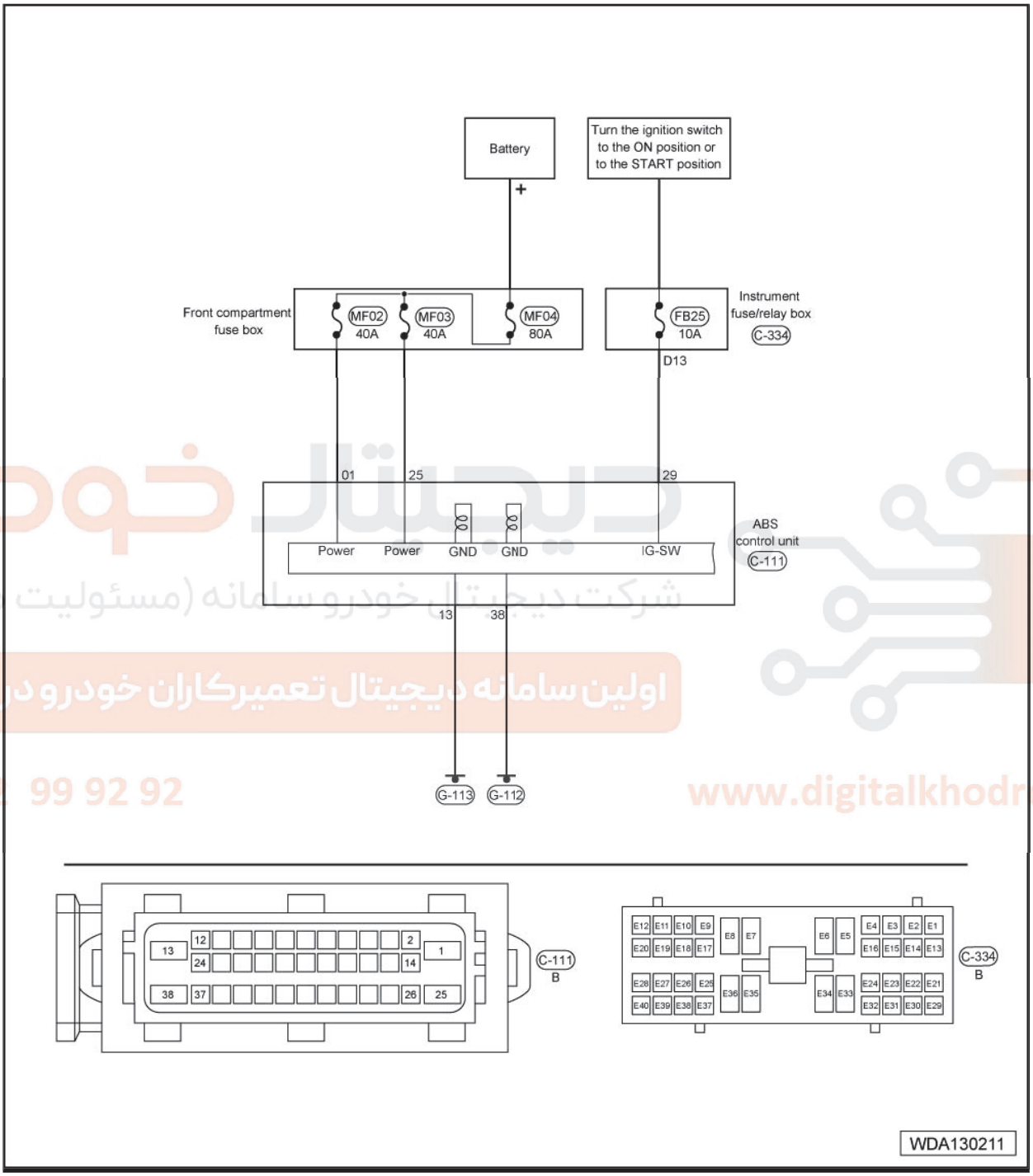
3.5 ABS diagnosis trouble code (DTC) list

DTC	Inspection items or symptoms
P1101	Excessive battery voltage
P1102	Low battery voltage
C1200	Front left wheel speed sensor open/short circuit
C1201	Front left wheel speed sensor circuit scope/function/sporadic faults
C1202	Failure/no signal in the front left wheel speed sensor
C1203	Front right wheel speed sensor open/short circuit
C1204	Front right wheel speed sensor circuit scope/function/sporadic faults
C1205	Failure/no signal in front right wheel speed sensor
C1206	Rear left wheel speed sensor open/short circuit
C1207	Rear left wheel speed sensor circuit scope/function/sporadic faults
C1208	Failure/no signal in rear left wheel speed sensor
C1209	Rear right wheel speed sensor open/short circuit
C1210	Rear right wheel speed sensor circuit scope/function/sporadic faults
C1211	Failure/no signal in rear right wheel speed sensor
P1513	Brake lamp switch failure

3.6 Testing the ABS diagnosis trouble code (DTC)

3.6.1 P1101 Excessive battery voltage

P1102 Low battery voltage



ABS control unit value

ABS control unit pin No.	Function	Condition	Value (DC voltage range)
1	ABS control unit power supply	The ignition switch in the ON/LOCK position	Battery voltage

ABS control unit pin No.	Function	Condition	Value (DC voltage range)
25	ABS control unit power supply	The ignition switch in the ON/LOCK position	Battery voltage

Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
P1101	Excessive battery voltage	The ignition switch in the ON position or the START position	The connecting wiring harness from the battery to the ABS control unit short circuit	• Failure of the wiring harness (short/open circuit) • Internal failure of the ABS control unit
P1102	Low battery voltage	The ignition switch in the ON position or the START position	The connecting wiring harness from the battery to the ABS control unit open circuit	• Failure of the wiring harness (short/open circuit) • Internal failure of the ABS control unit

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
  If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

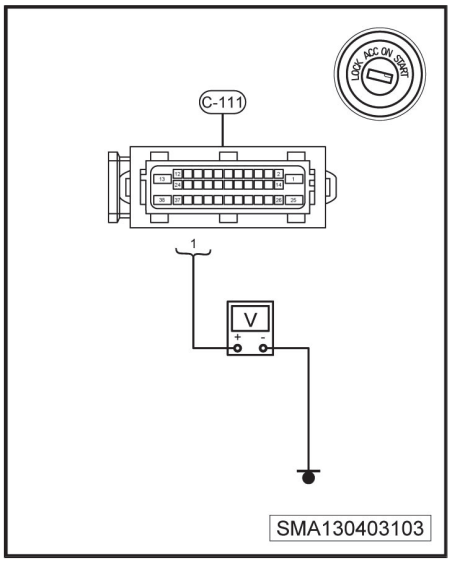
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

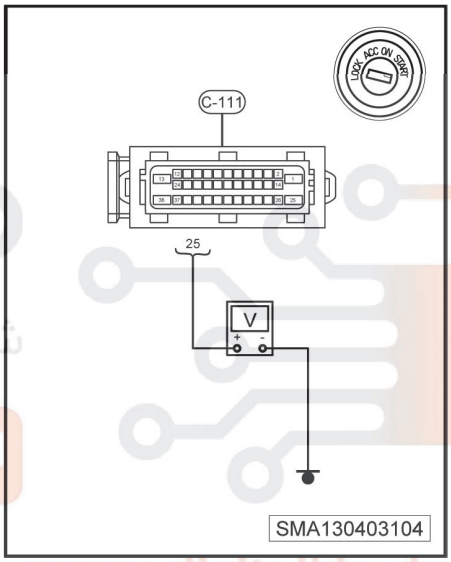
1. Check the ABS control module power supply fuse MF04\MF03\MF02 for faults.
   - If yes, the fuse fails and please replace it. ■
   - If not, go to step 2.

2. Check if the ABS control unit pins/connector are corrosive, tainted and loose.
   - If yes, the connector/pins fail and please repair or replace them. ■
   - If not, go to step 3.

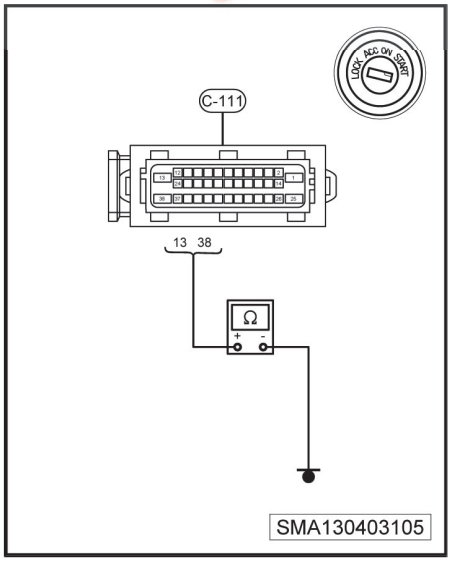
3. When turning the ignition switch to the LOCK position, disconnect the ABS control unit connector C-111 and check if the voltage between the ABS control unit connector pin 1 and the body ground reaches the battery voltage.
   - If yes, go to step 4.
   - If not, check if the lead between the ABS control unit connector pin 1 and the front compartment fuse box MF02 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



4. When turning the ignition switch to the LOCK position, check if the voltage between the ABS control unit connector pin 25 and the body ground reaches the battery voltage.
   - If yes, go to step 5.
   - If not, check if the lead between the ABS control unit connector pin 25 and the front compartment fuse box MF03 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



5. When turning the ignition switch to the LOCK position, measure if the ABS control unit pin and connector pin 13/38 are normally grounded.
   - If yes, go to step 6.
   - If not, check if the lead between the ABS control unit pin 13/38 and the earth terminals has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



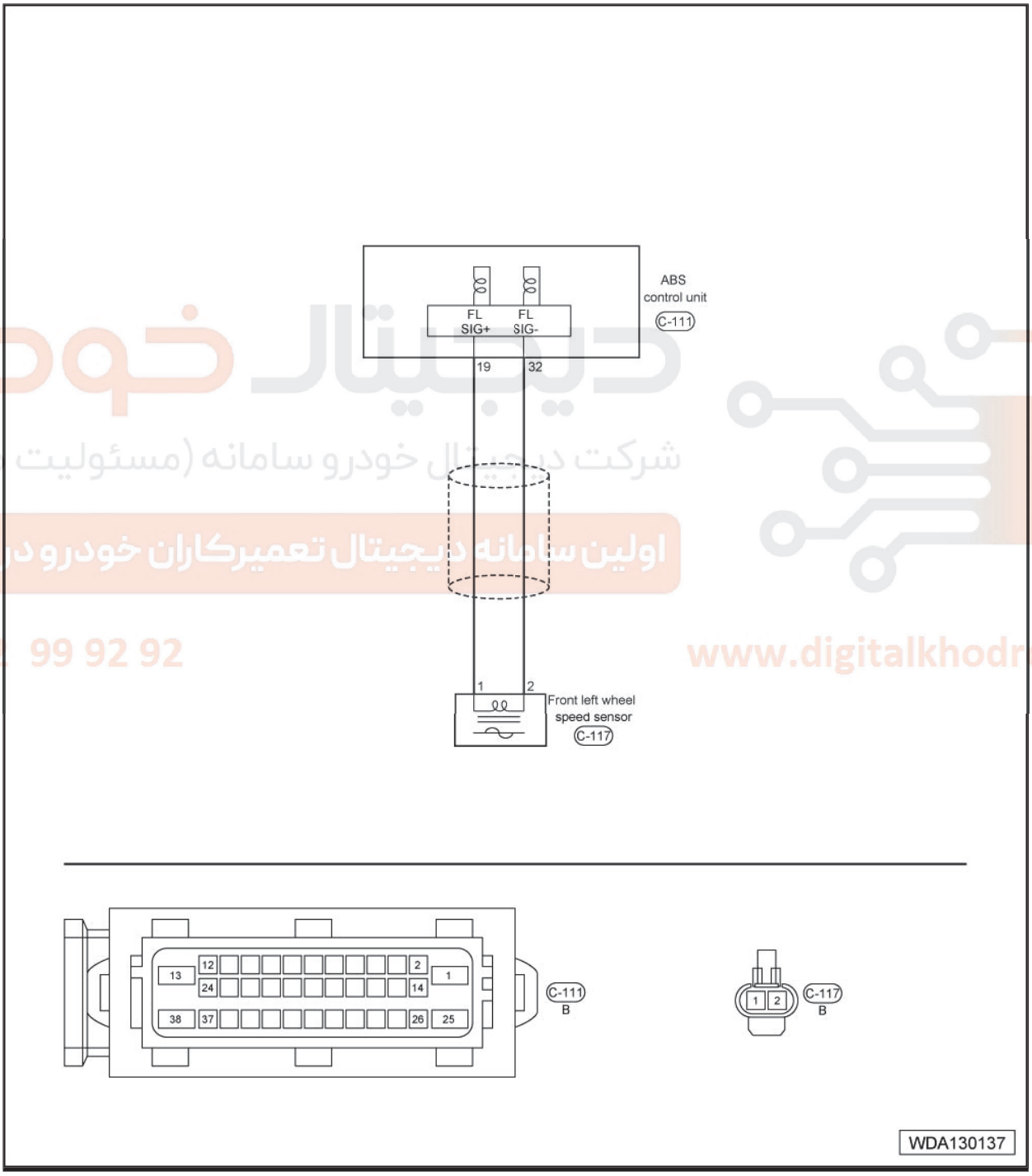
6. Replace the ABS control unit, retest it and read the fault code to verify if the code is present or not.

- If yes, locate fault causes from other symptoms.
- If not, the fault has been rectified. ■

3.6.2 C1200 Front left wheel speed sensor open/short circuit

C1201 Front left wheel speed sensor circuit scope/function/sporadic faults

C1202 Failure/no signal in front left wheel speed sensor



Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
C1200	Front left wheel speed sensor open/short circuit	The ignition switch in the ON position	The connecting wiring harness from the ABS control unit to the front left wheel speed sensor short/open circuit	Failure of the wiring harness (open/short circuit)
C1201	Front left wheel speed sensor circuit scope/function/sporadic faults	The ignition switch in the ON position	Front left wheel speed sensor sporadic faults detected by the ABS control unit	Failure of the sensor
C1202	Failure/no signal in front left wheel speed sensor	The ignition switch in the ON position	Failure of the front left wheel speed sensor	Failure of the sensor

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
  If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

04

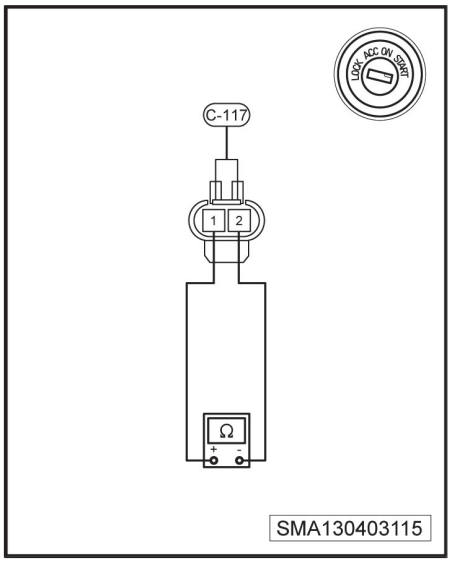
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

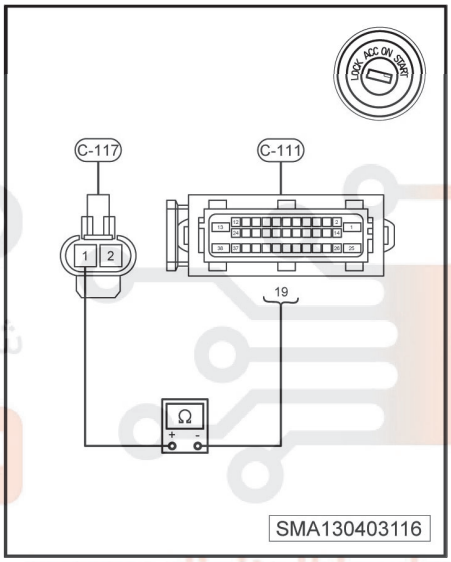
1. Check if the front left wheel speed sensor signal plate is distorted and attached with foreign matters.
   - If yes, the front left wheel signal plate fails and please replace it. ■
   - If not, go to step 2.

2. Check if the wheel speed sensor connector is tainted and corrosive.
   - If yes, the front left wheel speed sensor connector fails and please repair it. ■
   - If not, go to step 3.

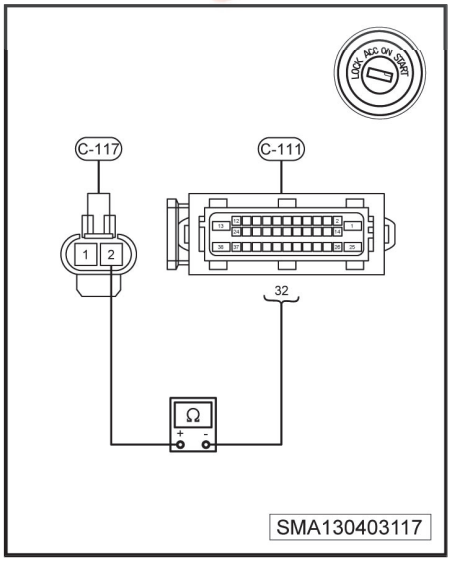
3. When turning the ignition switch to the LOCK position, disconnect the front left wheel speed sensor connector C-117 and measure if the resistance between the wheel speed sensor is normal.
   - If yes, go to step 4.
   - If not, the front left wheel speed sensor fails and please replace it. ■



4. When turning the ignition switch to the LOCK position, check if the lead between the front left wheel speed sensor connector pin 1 and the ABS control unit pin 19 is conducted.
   - If yes, go to step 5.
   - If not, check if the lead between the front left wheel speed sensor connector pin 1 and the ABS control unit pin 19 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



5. When turning the ignition switch to the LOCK position, check if the lead between the front left wheel speed sensor connector pin 2 and the ABS control unit pin 32 is conducted.
   - If yes, go to step 6.
   - If not, check if the lead between the front left wheel speed sensor connector pin 2 and the ABS control unit pin 32 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



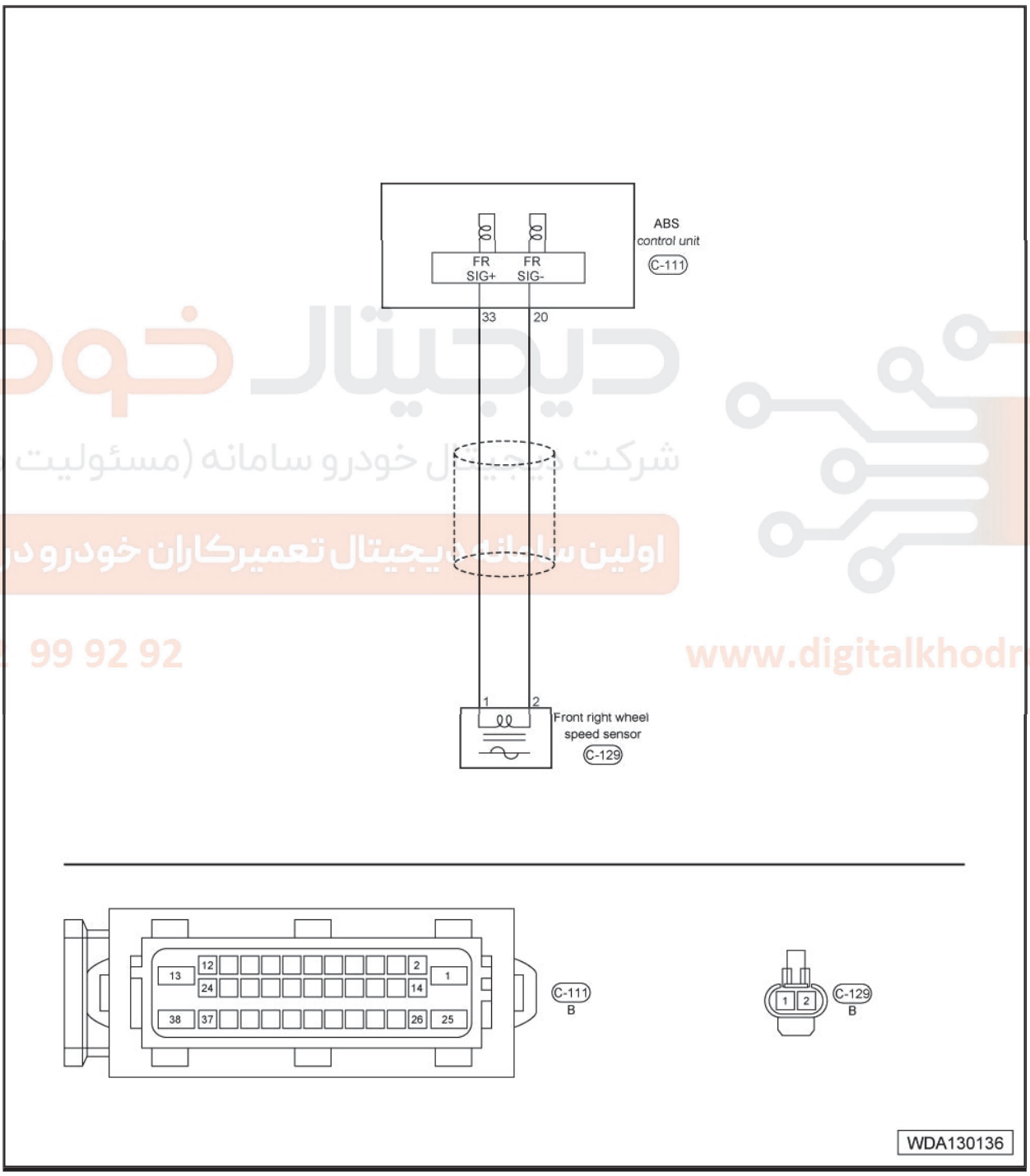
6. Replace the ABS control unit , retest it and read the fault code to verify if the code is present or not.

- If yes, locate fault causes from other symptoms.
- If not, the fault has been rectified. ■

3.6.3 C1203 Front right wheel speed sensor open/short circuit

C1204 Front right wheel speed sensor circuit scope/function/sporadic faults

C1205 Failure/no signal in front right wheel speed sensor



Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
C1203	Front right wheel speed sensor open/short circuit	The ignition switch in the ON position	The connecting wiring harness from the ABS control unit to the front right wheel speed sensor short/open circuit	Failure of the wiring harness (open/short circuit)
C1204	Front right wheel speed sensor circuit scope/function/sporadic faults	The ignition switch in the ON position	Front right wheel speed sensor sporadic faults detected by the ABS control unit	Failure of the sensor
C1205	Failure/no signal in front right wheel speed sensor	The ignition switch in the ON position	Failure of the front right wheel speed sensor	Failure of the sensor

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
  If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

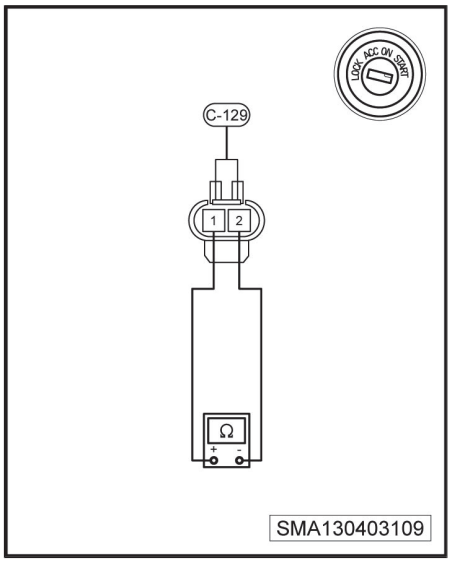
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

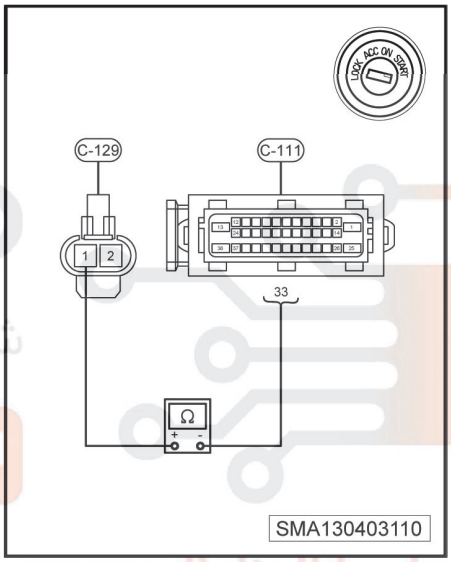
1. Check if the front right wheel speed sensor signal plate is distorted and attached with foreign matters.
   - If yes, the front right wheel signal plate fails and please replace it. ■
   - If not, go to step 2.

2. Check if the wheel speed sensor connector is tainted and corrosive.
   - If yes, the front right wheel speed sensor connector fails and please repair it. ■
   - If not, go to step 3.

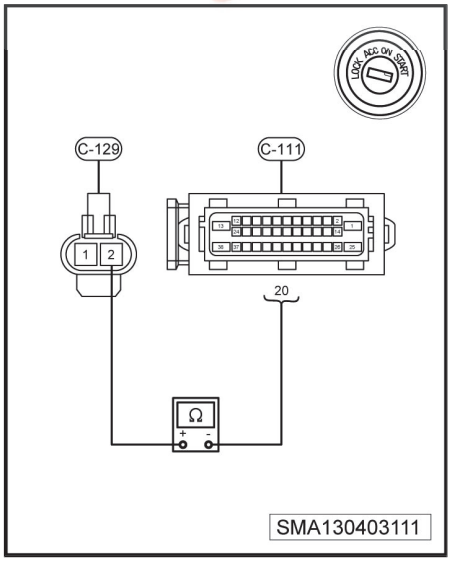
3. When turning the ignition switch to the LOCK position, disconnect the front right wheel speed sensor connector C-129 and measure if the resistance between the wheel speed sensor is normal.
   - If yes, go to step 4.
   - If not, the front right wheel speed sensor fails and please replace it. ■



4. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 33 is conducted.
   - If yes, go to step 5.
   - If not, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 33 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



5. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 20 is conducted.
   - If yes, go to step 6.
   - If not, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 20 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■

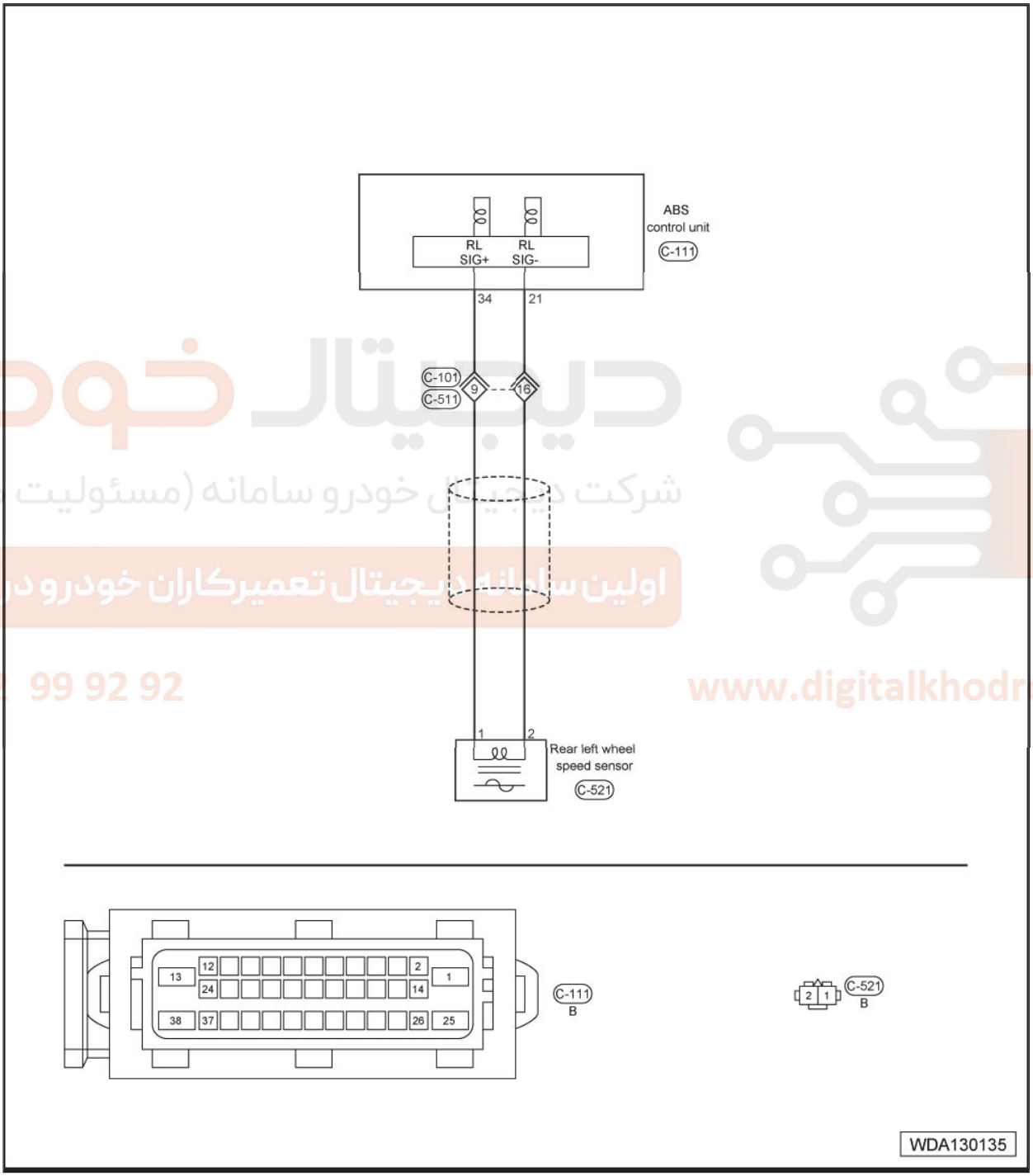


6. Replace the ABS control unit , retest it and read the fault code to verify if the code is present or not.

- If yes, locate fault causes from other symptoms.
- If not, the fault has been rectified. ■

3.6.4 C1206 Rear left wheel speed sensor open/short circuit

C1207 Rear left wheel speed sensor circuit scope/function/sporadic faults
C1208 Failure/no signal in rear left wheel speed sensor



Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
C1206	Rear left wheel speed sensor open/short circuit	The ignition switch in the ON position	The connecting wiring harness from the ABS control unit to the rear left wheel speed sensor short/open circuit	Failure of the wiring harness (open/short circuit)
C1207	Rear left wheel speed sensor circuit scope/function/sporadic faults	The ignition switch in the ON position	Rear left wheel speed sensor sporadic faults detected by the ABS control unit	Failure of the sensor
C1208	Failure/no signal in rear left wheel speed sensor	The ignition switch in the ON position	Failure of the front left wheel speed sensor	Failure of the sensor

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
  If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

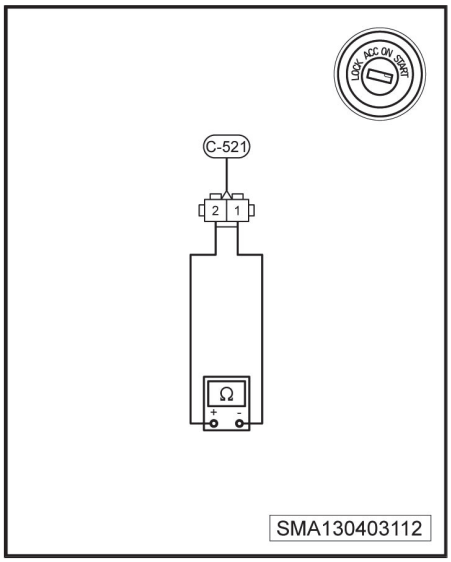
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

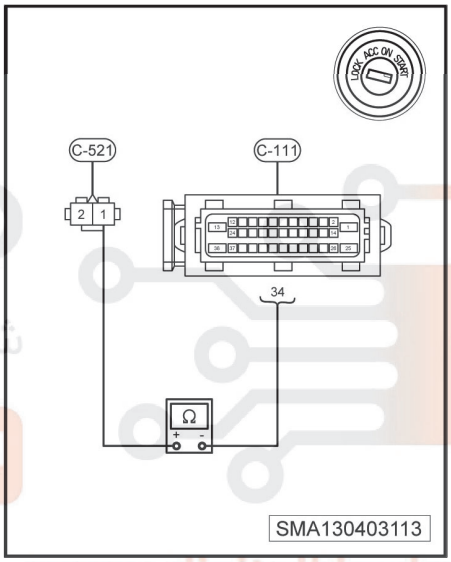
1. Check if the rear left wheel speed sensor signal plate is distorted and attached with foreign matters.
   - If yes, the rear left wheel signal plate fails and please replace it. ■
   - If not, go to step 2.

2. Check if the wheel speed sensor connector is tainted and corrosive.
   - If yes, the rear left wheel speed sensor connector fails and please repair it. ■
   - If not, go to step 3.

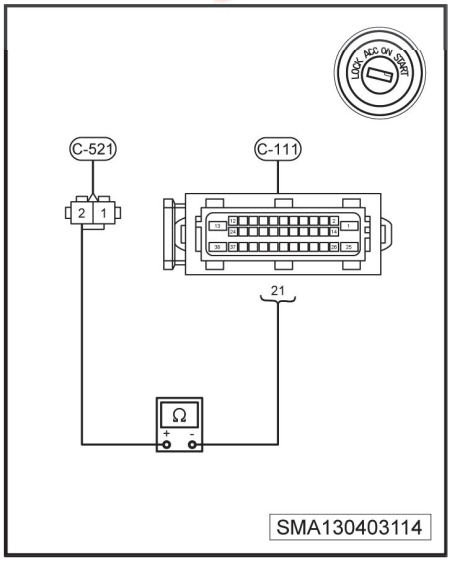
3. When turning the ignition switch to the LOCK position, disconnect the rear left wheel speed sensor connector C-521 and measure if the resistance between the wheel speed sensor is normal.
   - If yes, go to step 4.
   - If not, the rear left wheel speed sensor fails and please replace it. ■



4. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 34 is conducted.
   - If yes, go to step 5.
   - If not, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 34 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



5. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 21 is conducted.
   - If yes, go to step 6.
   - If not, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 21 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



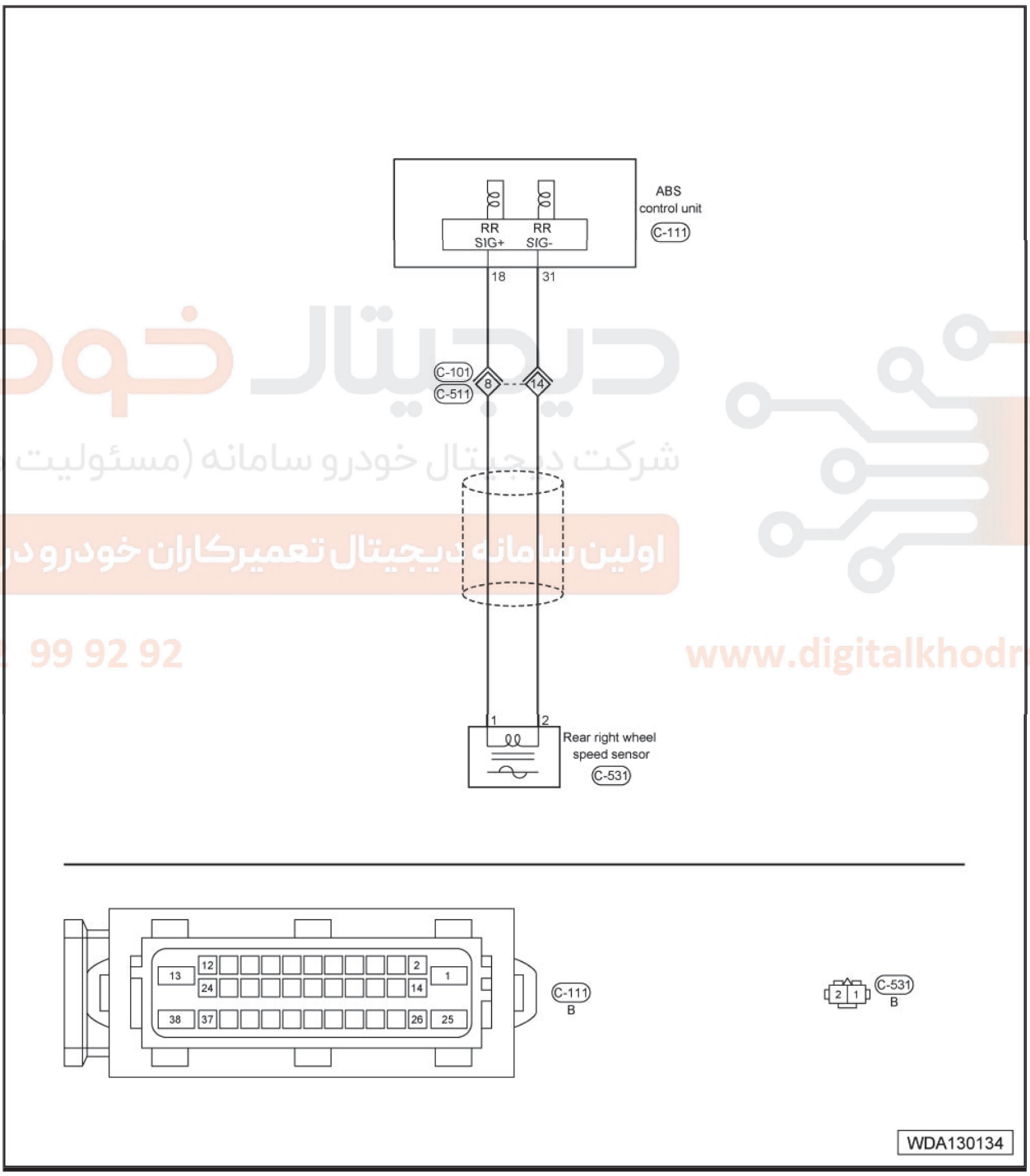
6. Replace the ABS control unit , retest it and read the fault code to verify if the code is present or not.

- If yes, locate fault causes from other symptoms.
- If not, the fault has been rectified. ■

3.6.5 C1209 Rear right wheel speed sensor open/short circuit

C1210 Rear right wheel speed sensor circuit scope/function/sporadic faults

C1211 Failure/no signal in rear right wheel speed sensor



Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
C1209	Rear right wheel speed sensor open/short circuit	The ignition switch in the ON position	The connecting wiring harness from the ABS control unit to the rear right wheel speed sensor short/open circuit	Failure of the wiring harness (open/short circuit)
C1210	Rear right wheel speed sensor circuit scope/function/sporadic faults	The ignition switch in the ON position	Rear right wheel speed sensor sporadic faults detected by the ABS control unit	Failure of the sensor
C1211	Failure/no signal in rear right wheel speed sensor	The ignition switch in the ON position	Failure of the rear right wheel speed sensor	Failure of the sensor

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures.
  If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

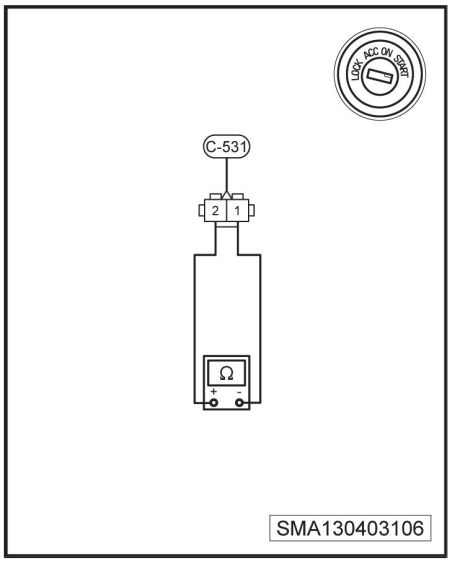
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

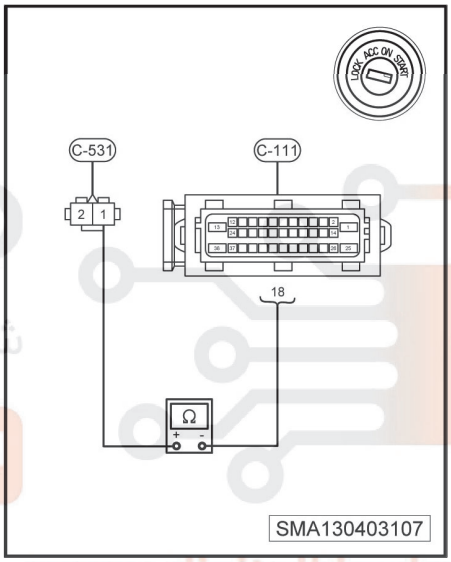
1. Check if the rear right wheel speed sensor signal plate is distorted and attached with foreign matters.
   - If yes, the rear right wheel signal plate fails and please replace it. ■
   - If not, go to step 2.

2. Check if the wheel speed sensor connector is tainted and corrosive.
   - If yes, the rear right wheel speed sensor connector fails and please repair it. ■
   - If not, go to step 3.

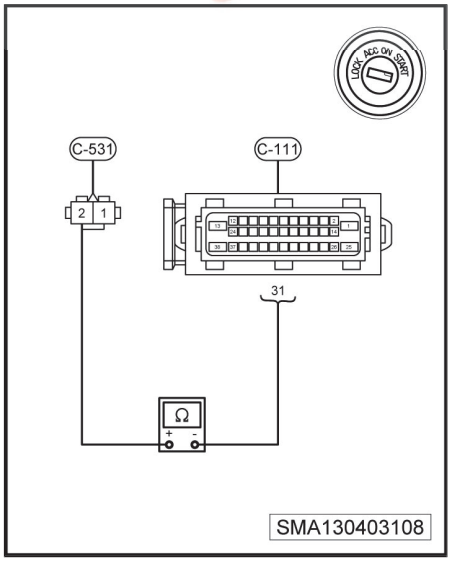
3. When turning the ignition switch to the LOCK position, disconnect the rear right wheel speed sensor connector C-531 and measure if the resistance between the wheel speed sensor is normal.
   - If yes, go to step 4.
   - If not, the rear right wheel speed sensor fails and please replace it. ■



4. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 18 is conducted.
   - If yes, go to step 5.
   - If not, check if the lead between the wheel speed sensor connector pin 1 and the ABS control unit pin 18 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



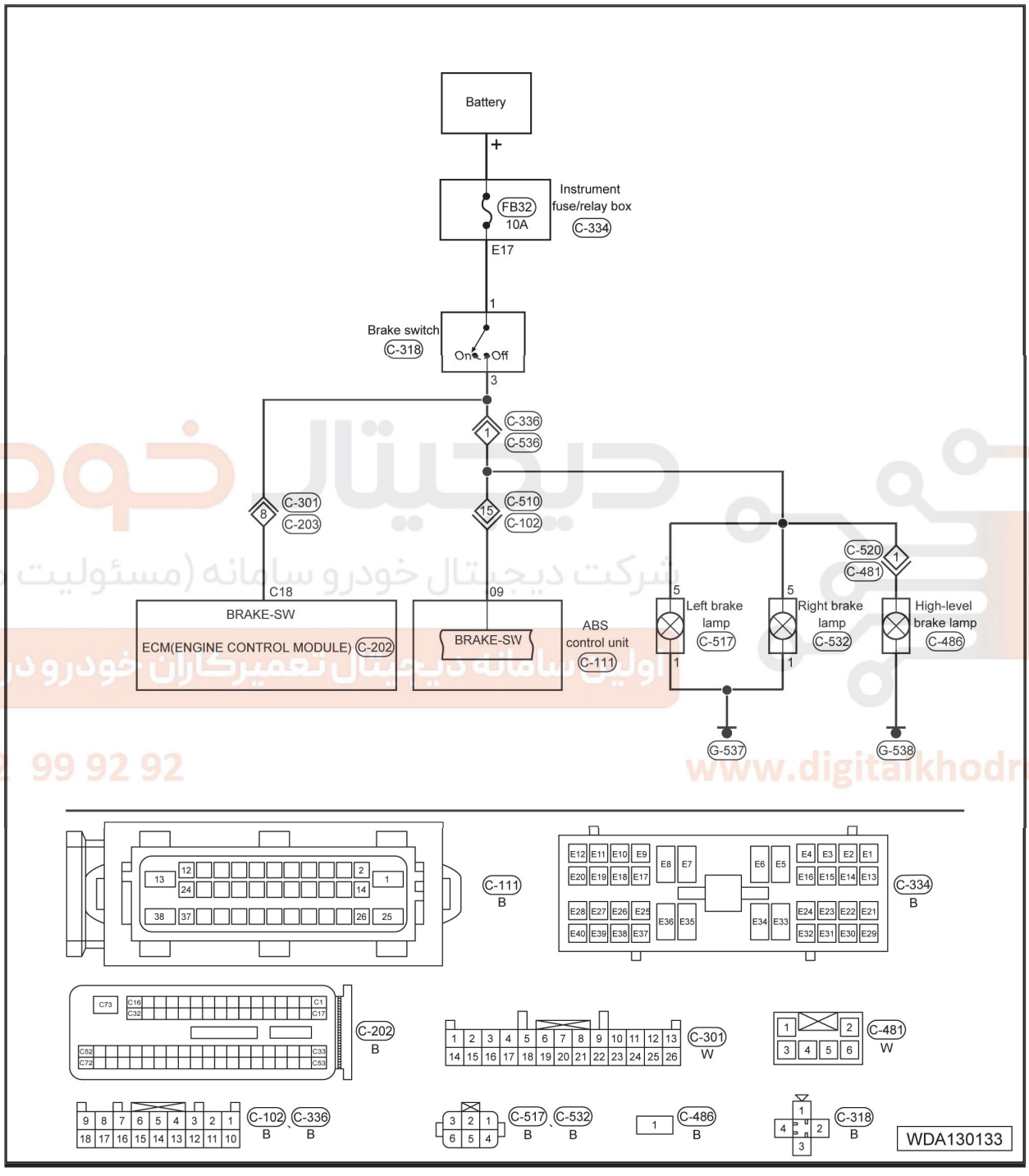
5. When turning the ignition switch to the LOCK position, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 31 is conducted.
   - If yes, go to step 6.
   - If not, check if the lead between the wheel speed sensor connector pin 2 and the ABS control unit pin 31 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



6. Replace the ABS control unit , retest it and read the fault code to verify if the code is present or not.

- If yes, locate fault causes from other symptoms.
- If not, the fault has been rectified. ■

3.6.6 P1513 Brake switch failure



Brake switch value

Brake switch pin No.	Function	Condition	Value (DC voltage range)
1	Brake switch power supply	The ignition switch in the LOCK position	Battery voltage

Fault code definition and fault causes

DTC	DTC definition	DTC test condition	DTC triggering condition	Possible causes
P1513	Brake switch failure	The ignition switch in the LOCK/ON position	Brake switch failure detected by the ABS control unit	• Failure of the wiring harness (short/open circuit) • Failure of the brake switch

DTC test procedures:

Please confirm that the battery voltage is normal before performing the following procedures.

- Turn off the ignition switch.
- Connect the X-431 diagnostic device to the DLC and perform the test with the updated software.
- Turn on the ignition switch.
- Measure and clear the DTC with the diagnostic device.
- Turn off the ignition switch and turn it on again after 3 to 5 seconds.
- Measure the DTC with the diagnostic device.
- If a DTC is detected, it indicates that the vehicle is faulty, please perform corresponding diagnostic procedures. If no DTC is detected, it indicates that the previously detected faults are sporadic .

Diagnostic procedures:

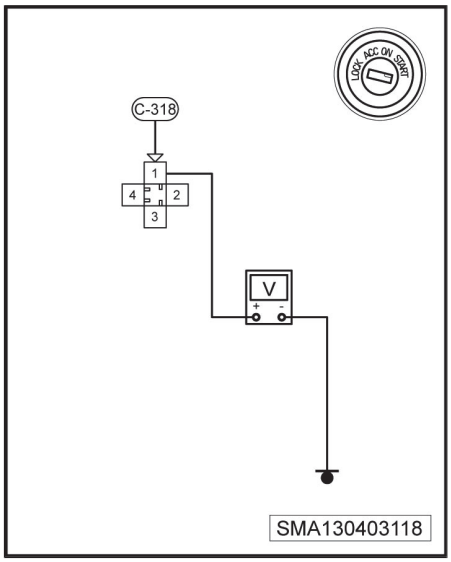
Note

- Please verify again if the DTC and its symptoms are present after fault is rectified.

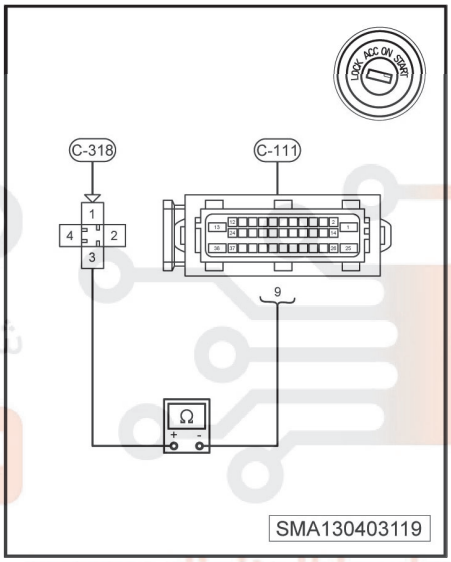
1. Check if the brake switch power supply fuse FB32 is faulty.
   - If yes, the fuse fails and please replace it. ■
   - If not, go to step 2.

2. Check the brake switch for damage.
   - If yes, the brake switch fails and please replace it. ■
   - If not, go to step 3.

3. When turning the ignition switch to the LOCK position, disconnect the brake switch connector C-318 and check if the voltage between the connector pin 1 and the body ground reaches the battery voltage.
   - If yes, go to step 4.
   - If not, check if the wiring harness has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



4. When turning the ignition switch to the LOCK position, check if the lead between the brake switch connector pin 3 and the ABS control unit pin 9 is conducted.
   - If yes, go to step 5.
   - If not, check if the lead between the brake switch connector pin 3 and the ABS control unit pin 9 has grounding, short circuit, open circuit, excessive resistance value and fake connection, and repair defective lead. ■



5. Replace the ECM control module, carry out the function test again, and read the fault code to verify if it exists or not.
   - If yes, locate fault causes from other symptoms.
   - If not, the fault has been rectified. ■

4 Regular Brake Assemblies

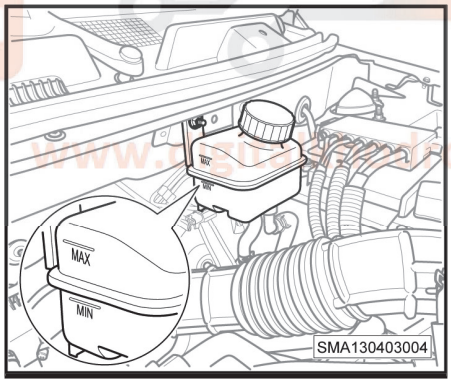
4.1 Regular brake system exhaust

Caution

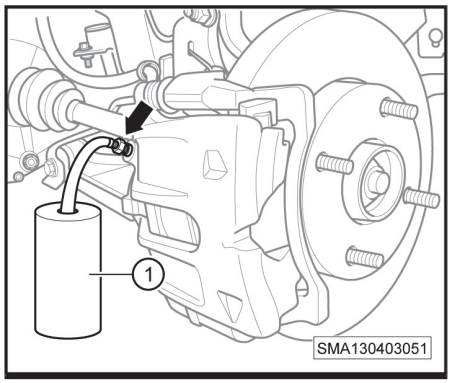
- Discharged brake fluid cannot be reused.
- Only use the brake fluid approved by Chery Automobile Co., Ltd.; otherwise, it may lead to pipeline corrosion.
- Make sure that the brake fluid is free of contamination.
- Never splash brake fluid on the vehicle; otherwise, it may damage the vehicle paintwork. If the brake fluid splashes on the paintwork, please rinse it with water immediately.
- After air discharge, you shall check the brake oil pipe and the connector for leakage. The brake fluid level in reservior shall be at the MAX mark.

Exhaust

1. Confirm the brake fluid level in reservior at the MAX mark.

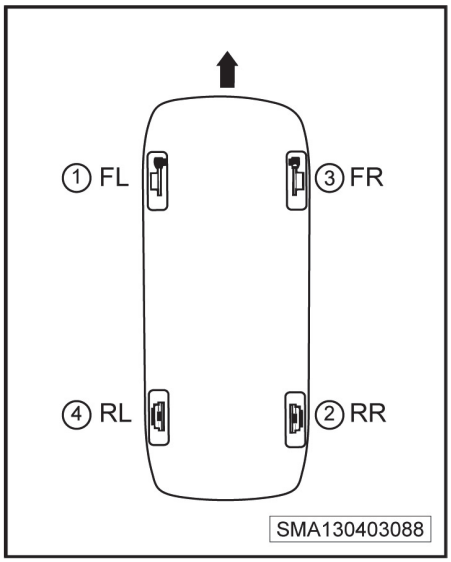


2. Connect the oil drain port to the vessel (-1-) with a transparent plastic hose.
3. After another technician slowly presses the brake pedal repeatedly and exerts an invariable pressure. Loosen the exhaust screw of the brake caliper (-arrow-) until some brake fluid is discharged.
4. Tighten the exhaust screw (-arrow-).

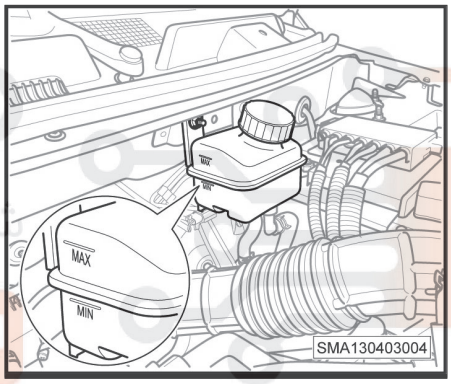


5. Repeat the above steps until the air in the system is all discharged.

6. Discharge air in each wheel in the sequence shown in the figure until air in the brake fluid is all discharged.



7. Refill brake fluid to raise the brake fluid level at the MAX mark.



4.2 Disassembling and assembling the front wheel brake caliper

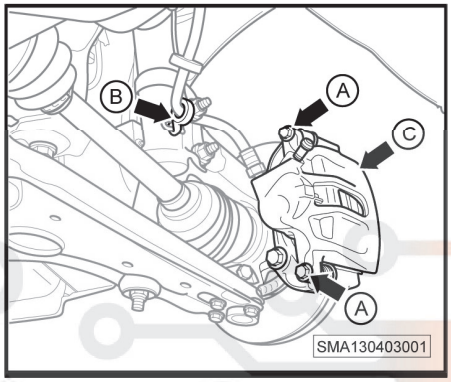
Note

- Do not carry out mechanical working on the brake caliper cylinder block and the piston.
- Seal the disconnected pipe to prevent the outflow of oil and inflow of foreign matters.
- When pressing out the brake piston, do not grip it to prevent body injury.
- Avoid inhaling brake pad dust because it is toxic.

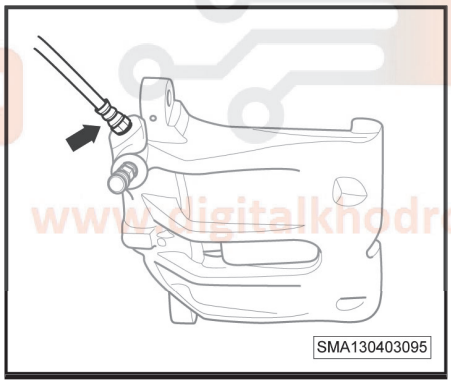
Disassembly

1. Drain the brake fluid in reservior.
2. Remove the wheels .=> refer to page 760

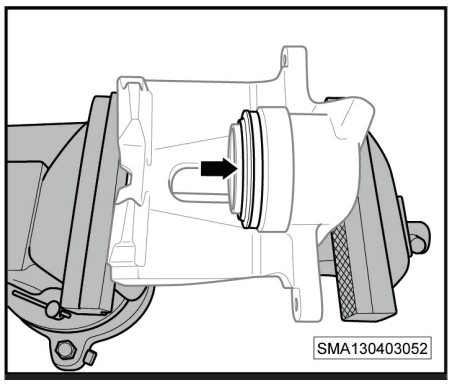
3. Unscrew the brake caliper fixing bolts (-arrow A-), loosen the brake hose clip (-arrow B-) to remove the brake caliper (-arrow C-).
   - Tightening torque of the bolt: 22±1 N•m



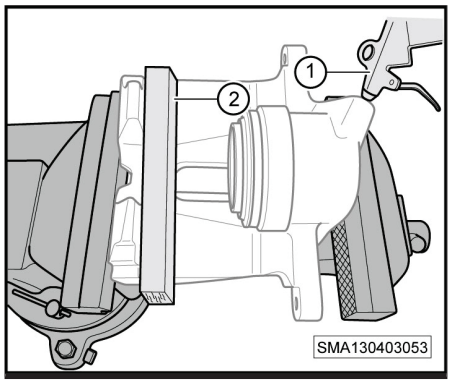
4. Unscrew the brake oil pipe bolt (-arrow-).
   - Tightening torque of the bolt: 18±1 N•m



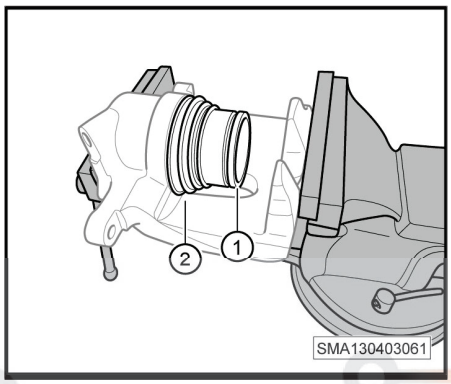
5. Remove the rubber dust cover from the piston groove in the (-arrow-) direction.



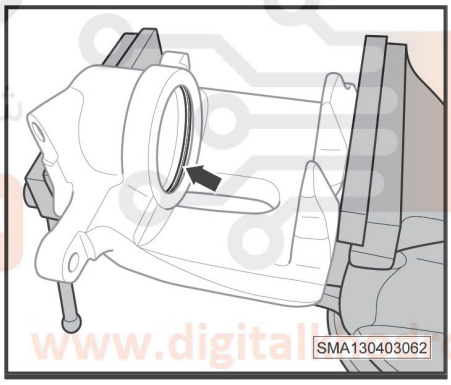
6. The wooden plate (-2-) is placed between the brake caliper piston and the brake caliper wall. Carefully press out the brake caliper piston with the compressed air (-1-).



7. Remove the brake caliper piston (-1-) and the rubber dust cover (-2-).



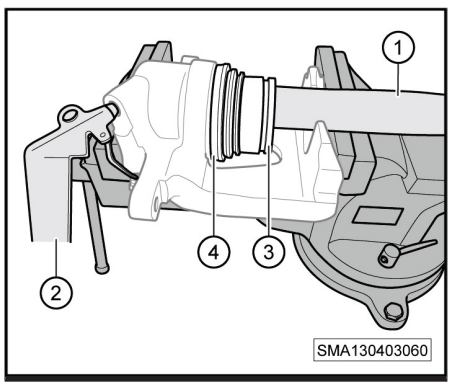
8. Carefully remove the brake caliper piston oil seal (-arrow-).
9. Rinse the brake caliper cylinder block and the brake caliper piston with alcohol and dry them.



Assembly

1. Install the brake caliper piston oil seal and the brake caliper piston dust cover.

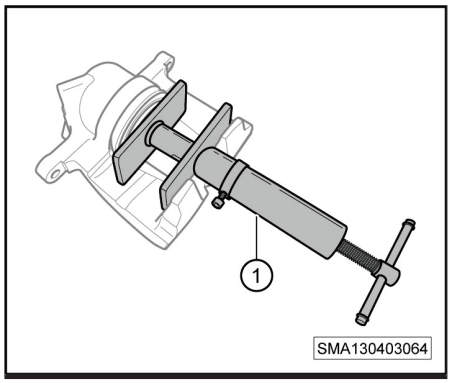
2. Jack up the brake caliper piston (-3-) with the tool (-1-), blow up the dust cover (-4-) with the compressed air (-2-), and install the brake caliper piston in the dust cover.



Note

- Apply brake fluid on the brake caliper surface so that the brake caliper piston can be more easily installed in the dust cover.

3. Reset the brake caliper piston with the tool (-1-).



4. Assembly shall follow the reverse sequence of the disassembly procedure. Please pay attention to the following notes:
   - Tighten the fixing bolts with the specified torque.
   - Check the brake caliper for cracks and distortion. Replace it if necessary.
   - Check the piston movement for blockage and the piston return for smoothness. Replace it if necessary.
   - Check the piston and the cylinder wall for damage and corrosion. Replace the brake caliper assembly if necessary.
   - Check the brake fluid level. Add brake fluid if necessary .
   - After assembling the brake caliper, exhaust the brake system.

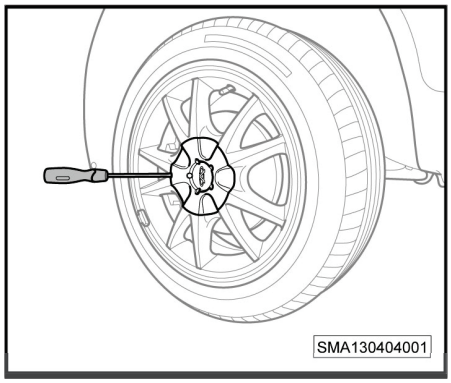
4.3 Removing and installing the front brake pad

Note

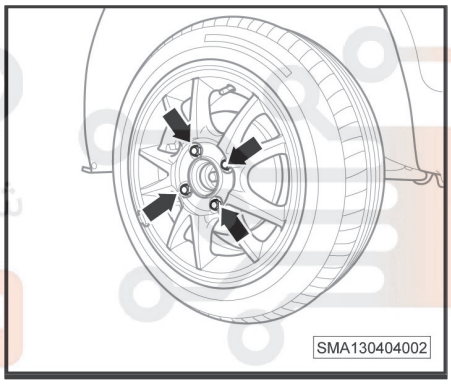
- Please wear necessary protective facilities to avoid accidents.

Removal

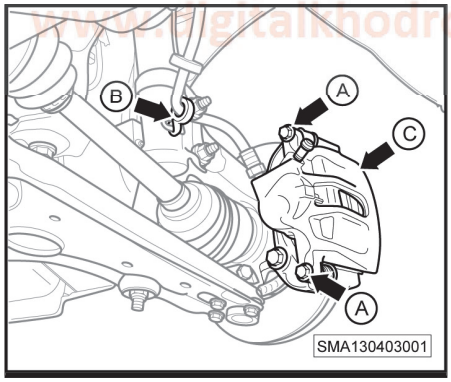
1. Pry out the decorative covers for wheel nuts with a screwdriver.



2. Loosen the wheel fixing nuts (-arrow-). Lift the vehicle safely. Unscrew the wheel fixing nuts and remove the wheel.
   - Tightening torque of the nut: 110±10 N•m



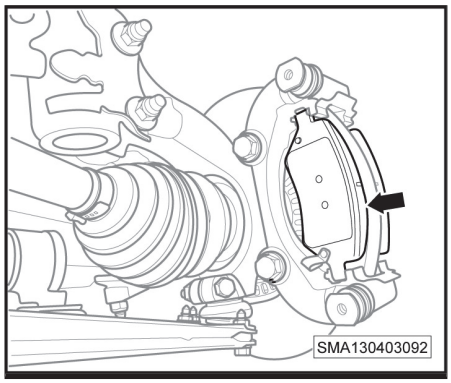
3. Unscrew the brake caliper fixing bolts (-arrow A-) and loosen the brake hose clip (-arrow B-) to remove the brake caliper (-arrow C-).
   - Tightening torque of the bolt: 22±1 N•m



Note

- It is impermissible to directly suspend the brake caliper, which should be secured with a strap to prevent brake hose damage.

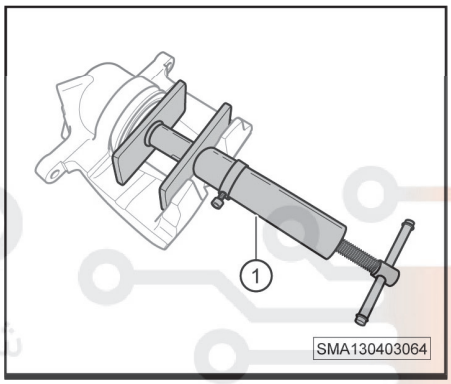
4. Remove the front brake pad (-arrow-).



Installation

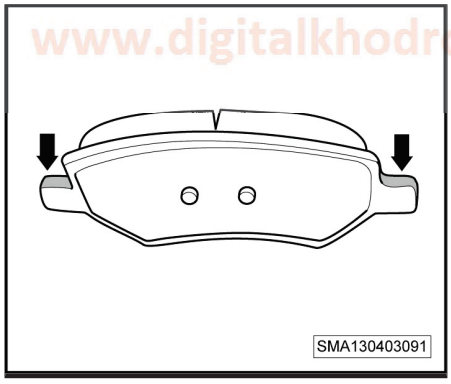
Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Reset the brake caliper piston with the tool (-1-).



- Tighten the fixing bolts with the specified torque.
- Avoid inhaling brake pad dust because it is toxic.

- When installing the brake pad, apply grease in the position shown by the (-arrow-) on the brake pad to reduce brake pad noise.



4.4 Removing and installing the front brake disc

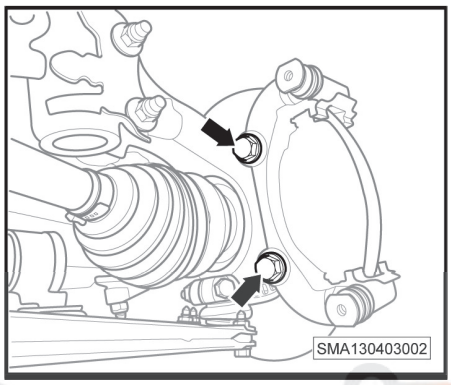
Note

- Please wear necessary protective facilities to avoid accidents.

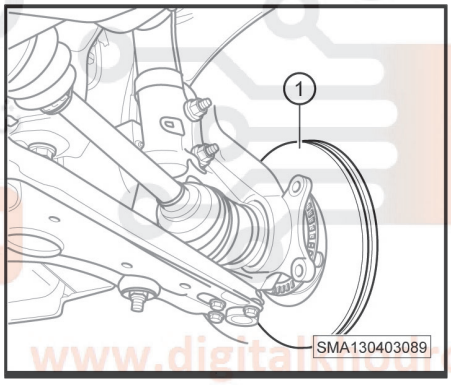
Removal

1. Remove the front brake pad .=> refer to page 723

2. Unscrew the brake caliper bracket fixing bolts (-arrow-) to remove the brake caliper bracket.
   - Tightening torque of the bolt: 85±5 N•m



3. Remove the brake disc (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- It is impermissible to directly suspend the brake caliper, which should be secured with a strap to prevent brake hose damage.
- Avoid inhaling brake pad dust because it is toxic.
- Clean oil stains on the brake disc.

4.5 Removing and installing the rear wheel brake drum

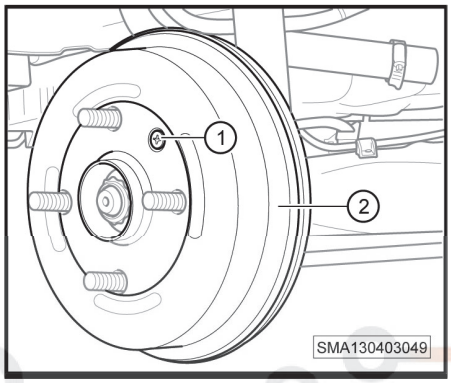
Note

- Please wear necessary protective facilities to avoid accidents.

Removal

1. Remove the rear wheels .=> refer to page 760
2. Place the parking brake lever at the lowest position.

3. Unscrew the fixing bolt of the rear brake drum (-1-) to remove the rear brake drum (-2-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

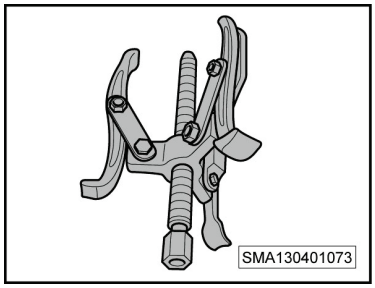
- Tighten the fixing bolts with the specified torque.
- Avoid inhaling brake pad dust because it is toxic.

4.6 Removing and installing the rear wheel brake shoe

Note

- Please wear necessary protective facilities to avoid accidents.

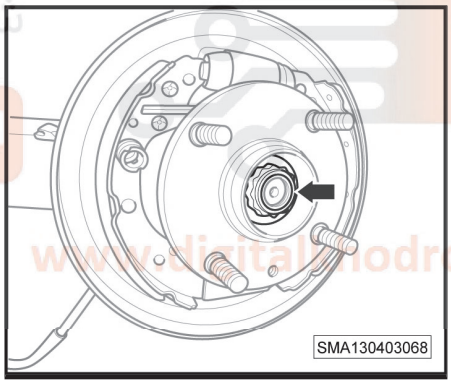
Maintenance tools and common equipment

	
Puller	

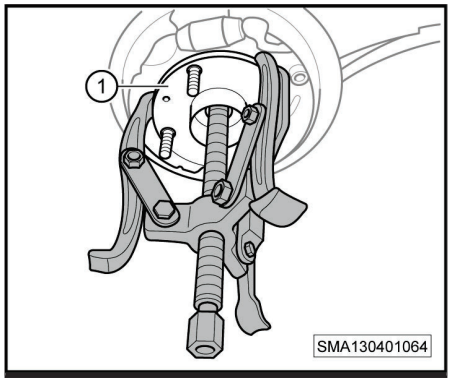
Removal

1. Remove the rear wheel brake drum .=> refer to page 726

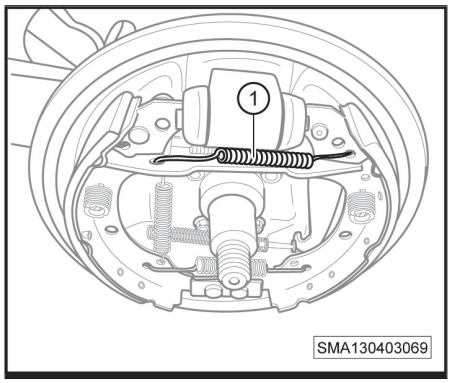
2. Unscrew the fixing nut of the rear wheel hub bearing (-arrow-).
   - Tightening torque of the nut: 230±10 N•m



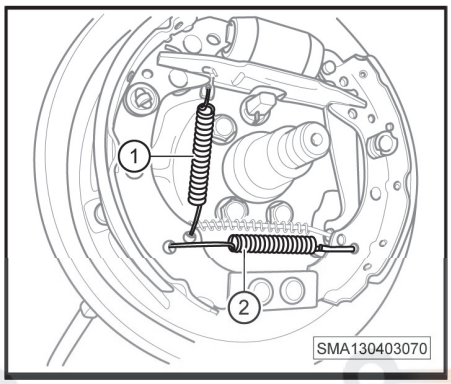
3. Pull out the rear wheel hub (-1-) with the puller.



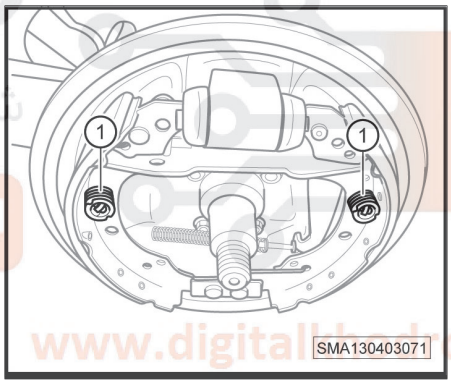
4. Remove the upper return spring (-1-).



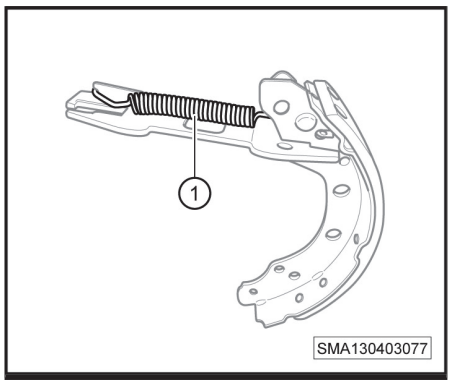
5. Remove the adjusting spring (-1-) and the lower return spring (-2-).



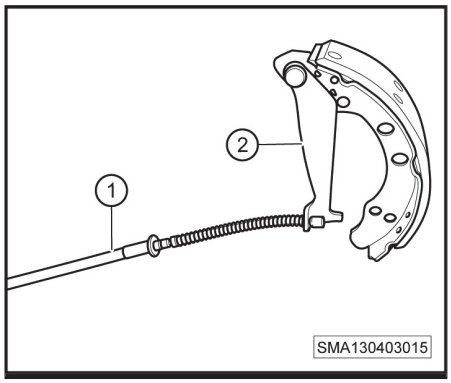
6. Push the retaining springs (-1-) and rotate the spring lock pin to pull out the retaining springs and remove the rear brake shoes.



7. Remove the coupling spring (-1-) between the wedge and the brake shoe to separate the wedge from the brake shoe.



8. Disconnect the parking brake cable (-1-) from the brake shoe pushrod (-2-) to remove the brake shoe.



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Avoid inhaling brake pad dust because it is toxic.

4.7 Removing and installing the brake pedal

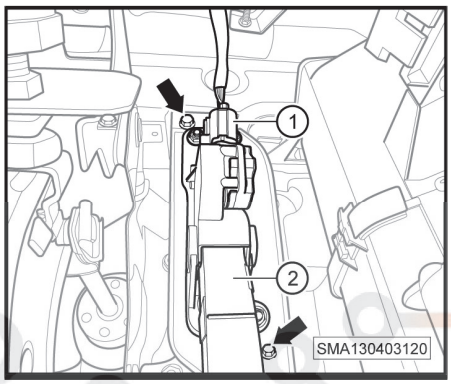
Note

- Please wear necessary protective facilities to avoid accidents.

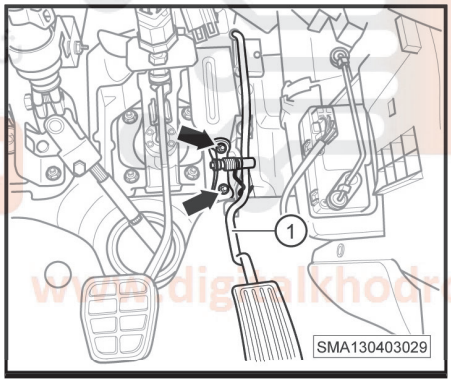
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.

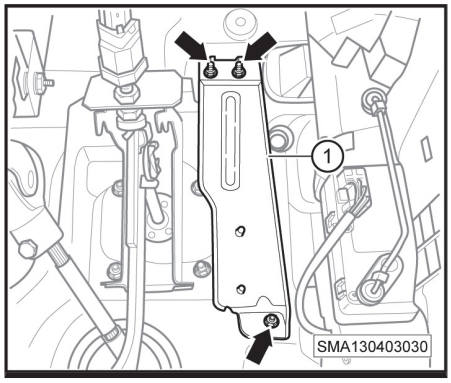
3. Disconnect the electronic accelerator pedal position sensor connector (-1-) and unscrew the electronic accelerator pedal mounting bracket nuts (-arrow-) to remove the electronic accelerator pedal (-2-). (Applicable to removal of electronic accelerator pedal)



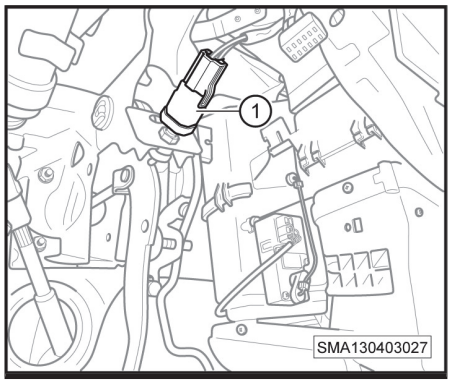
4. Unscrew the accelerator pedal fixing nuts (-arrow-) to remove the accelerator pedal (-1-). (Applicable to removal of mechanical accelerator pedal)



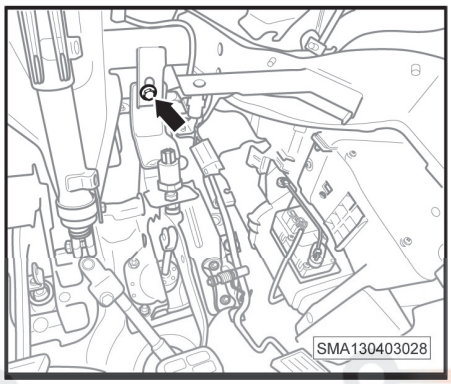
5. Unscrew the mechanical accelerator pedal fixing nuts (-arrow-) to remove the accelerator pedal mounting bracket (-1-). (Applicable to removal of mechanical accelerator pedal)



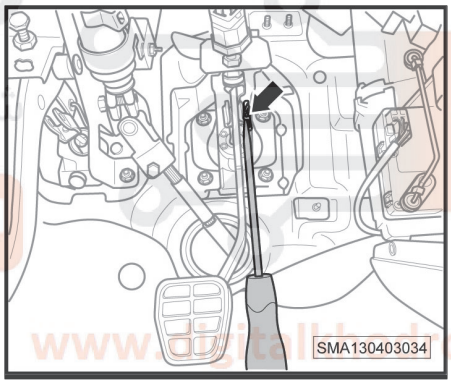
6. Disconnect the brake switch connector (-1-).



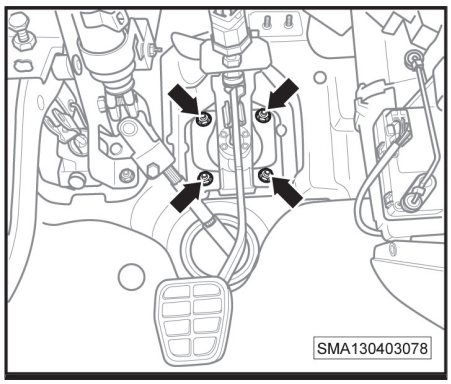
7. Unscrew the coupling bolt between the brake pedal and the cross car beam (-arrow-).



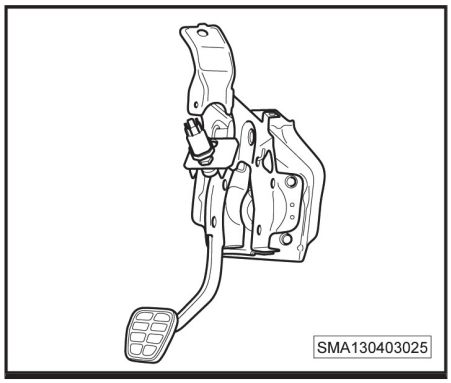
8. Pry out the fixing clamp spring of the vacuum booster pushrod lock pin (-arrow-) with a screwdriver and remove the pushrod lock pin.



9. Unscrew the coupling nuts between the brake pedal and the vacuum booster (-arrow-).
   - Tightening torque of the nut: 25±3 N•m



10. Remove the brake pedal assembly.



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- After installation, check the brake pedal height. Adjust it if necessary .=> refer to page 688

4.8 Removing and installing the brake master cylinder

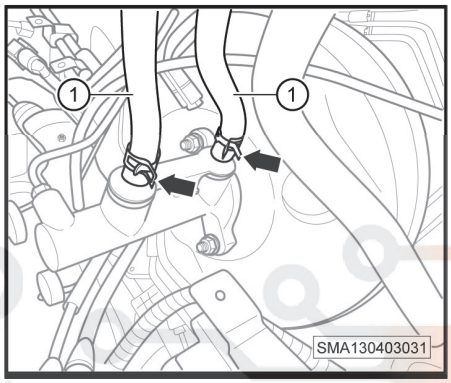
Note

- Please wear necessary protective facilities to avoid accidents.
- Before operating, drain the brake fluid reservior with a fluid suction device.
- Block the brake fluid oil pipe with a stopper to prevent the outflow of the brake fluid.

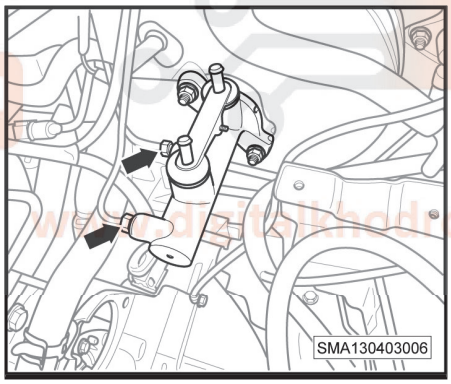
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Remove the battery and the battery tray.

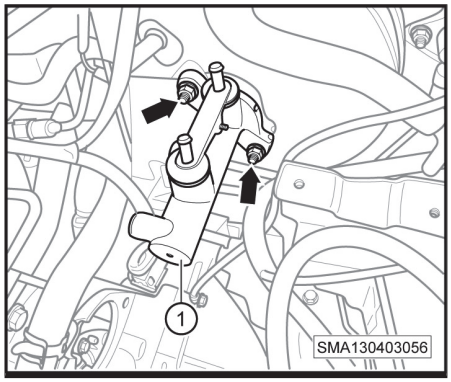
3. Loosen the clamps (-arrow-) and disconnect the brake fluid pipe connecting to the brake master cylinder (-1-).



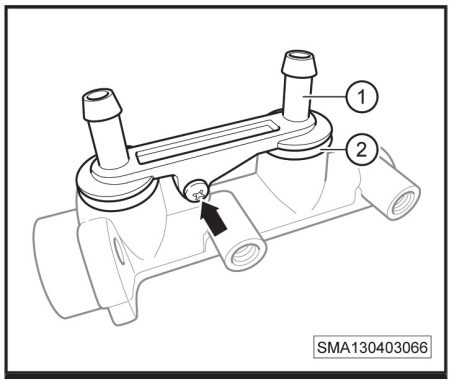
4. Unscrew the brake hard pipe bolts on the brake master cylinder (-arrow-) and seal the brake hard pipe with a stopper.
   - Tightening torque of the bolt: 18±1 N•m



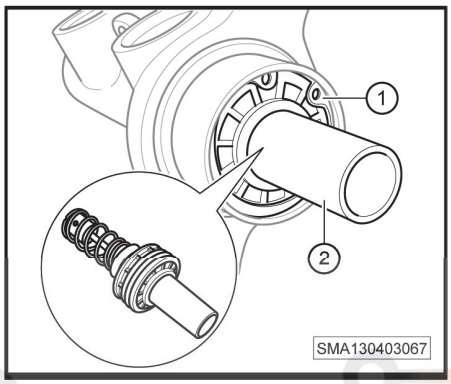
5. Unscrew the fixing nuts of the brake master cylinder (-arrow-) to carefully remove the brake master cylinder (-1-).
   - Tightening torque of the nut: 23±1 N•m



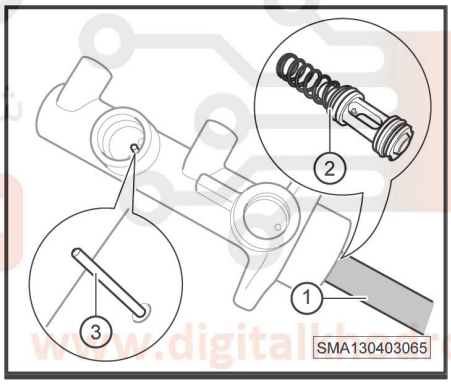
6. Unscrew the adapter fixing bolt (-arrow-) to remove the adapter (-1-) and the seal ring (-2-).



7. Pull out the stop ring (-1-) and remove the brake master cylinder secondary piston (-2-).



8. Hold down the brake master cylinder primary piston (-2-) with the tool (-1-) to pull out the limit pin (-3-) and remove the brake master cylinder primary piston (-2-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Seal ring shall not be reused.
- After installation, exhaust the brake system .=> refer to page 718

4.9 Removing and installing the brake booster

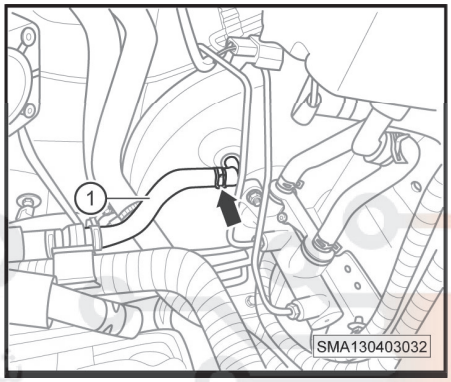
Note

- Please wear necessary protective facilities to avoid accidents.
- Before operating, drain the brake fluid reservior with a fluid suction device.
- Block the brake fluid oil pipe with a stopper to prevent the outflow of the brake fluid.

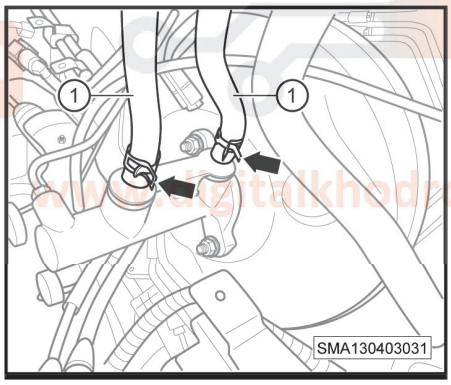
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Remove the battery and the battery tray .=> refer to page 976

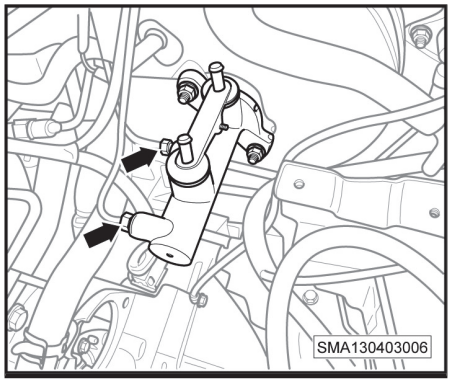
3. Loosen the clamps (-arrow-) to disconnect the vacuum booster vacuum tube (-1-).



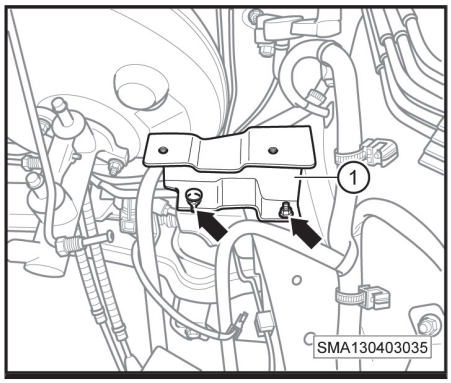
4. Loosen the clamps (-arrow-) and disconnect the brake fluid pipe connecting to the brake master cylinder (-1-).



5. Unscrew the brake hard pipe bolts on the brake master cylinder (-arrow-) and seal the brake hard pipe with a stopper.
   - Tightening torque of the bolt: 18±1 N•m

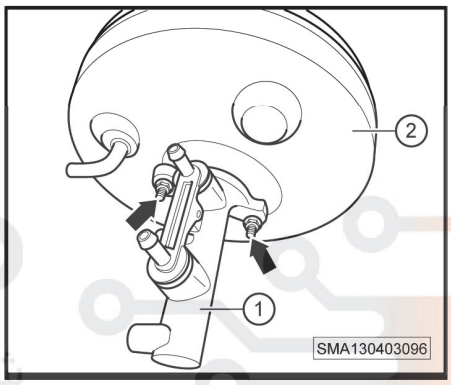


6. Unscrew the fixing bolts of the battery tray bracket (-arrow-) to remove the battery tray bracket (-1-).



7. Remove the brake pedal .=> refer to page 730
8. Remove the brake master cylinder together with the brake booster.

9. Unscrew the brake master cylinder nuts (-arrow-) to separate the brake booster (-2-) from the brake master cylinder (-1-).
   - Tightening torque of the nut: 23±1 N•m



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

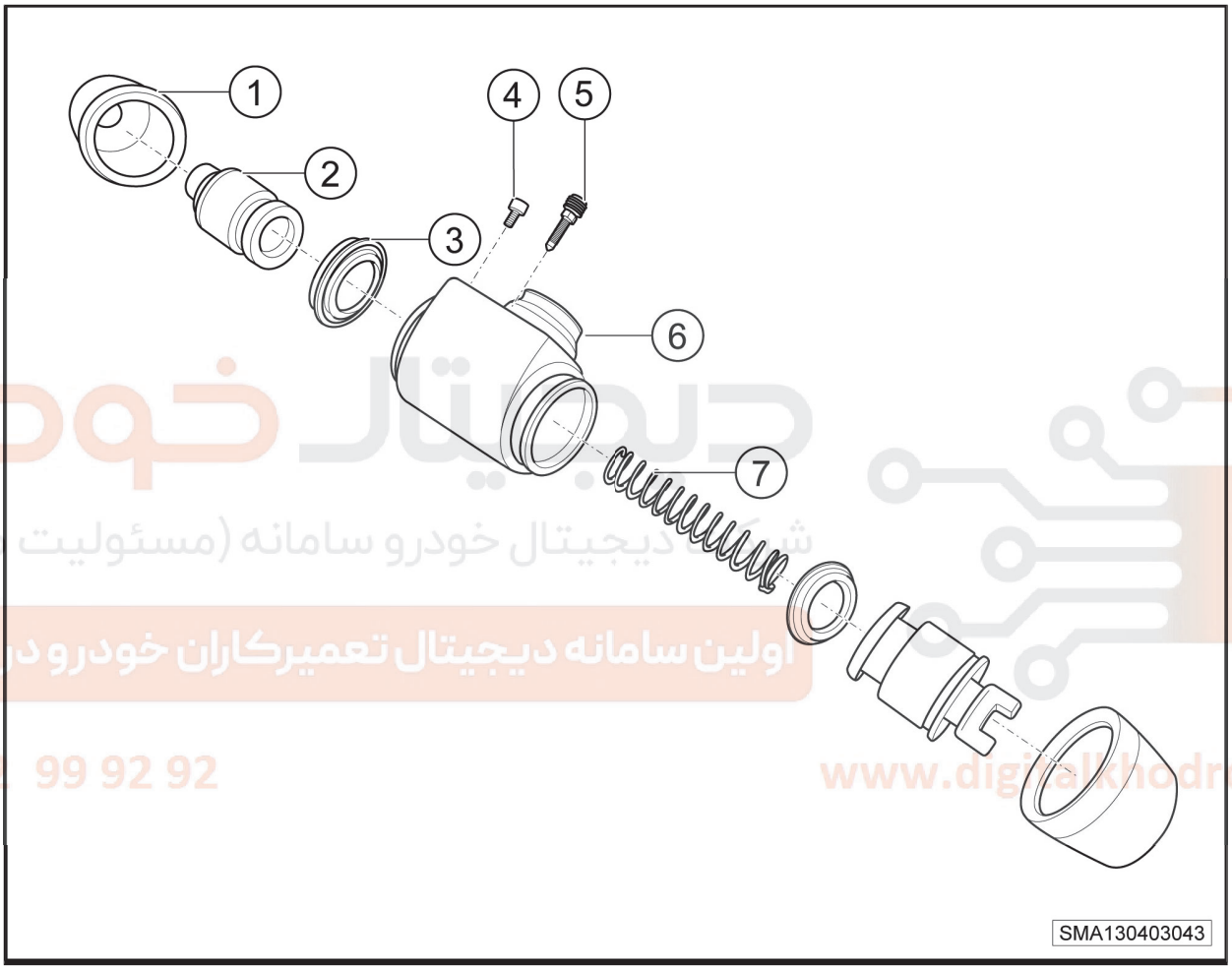
- Tighten the fixing bolts with the specified torque.
- Seal ring shall not be reused.
- After installation, exhaust the brake system.=> refer to page 718
- After installation, check the brake pedal height. Adjust it if necessary. => refer to page 688

4.10 Removing and installing the rear wheel cylinder

Note

- Please wear necessary protective facilities to avoid accidents.
- Before operating, drain the brake fluid reservior with a fluid suction device.
- Block the brake fluid oil pipe with a stopper to prevent the outflow of the brake fluid.

The rear wheel cylinder assembly drawing

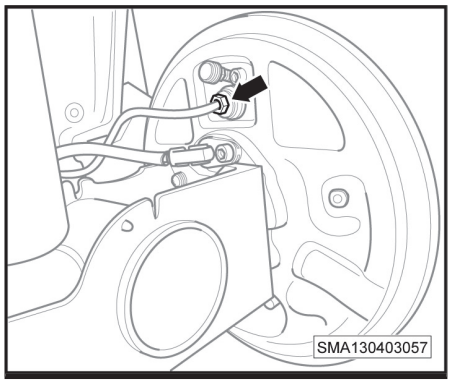


1. Rear wheel cylinder piston dust cover	2. Rear wheel cylinder piston
3. Rear wheel cylinder cup	4. Rear wheel cylinder fixing bolt
5. Rear brake exhaust port	6. Rear wheel cylinder block
7. Rear wheel cylinder piston spring	

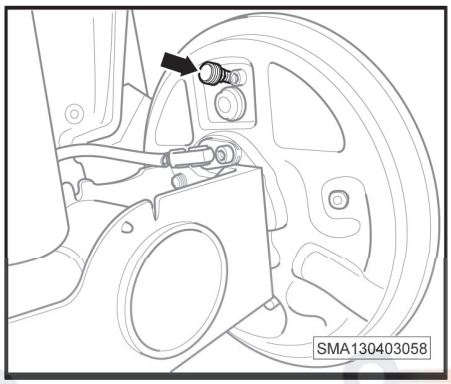
Removal

1. Remove the rear brake shoe . => refer to page 727

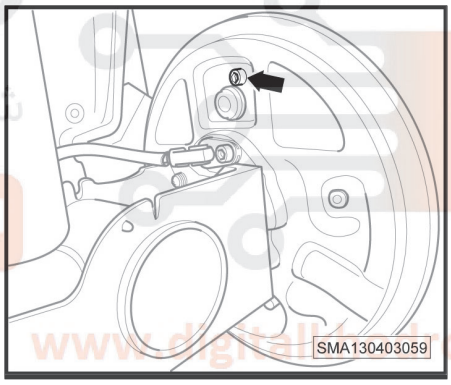
2. Unscrew the brake fluid oil pipe port bolt (-arrow-) to disengage the brake pipe.
   - Tightening torque of the bolt: 18±1 N•m



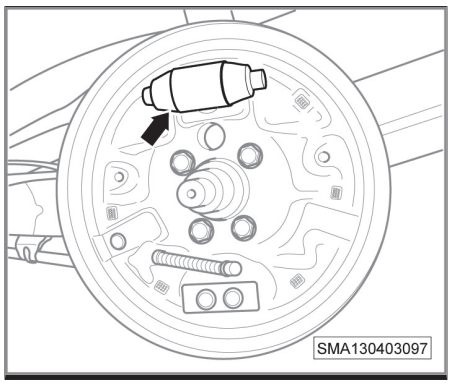
3. Unscrew the exhaust port bolt (-arrow-).



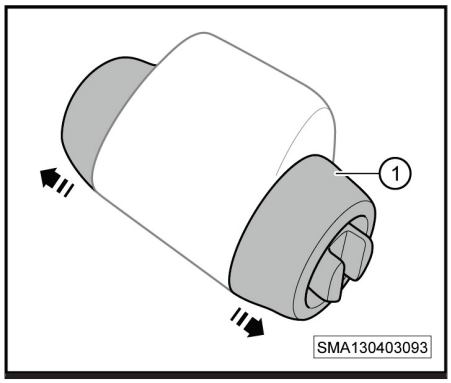
4. Unscrew the rear wheel cylinder fixing bolt (-arrow-).



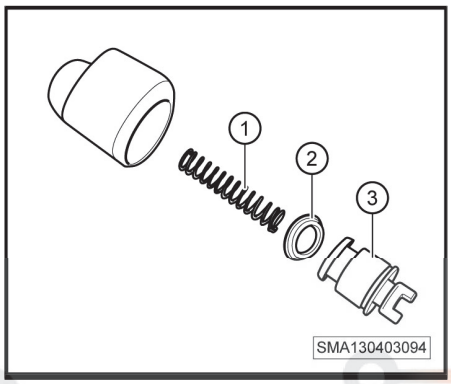
5. Remove the rear wheel cylinder (-arrow-).



6. Pull out the dust cover (-1-) in the (-arrow-) direction and remove the rear wheel cylinder piston.



7. Separate the rear wheel cylinder spring (-1-), rear wheel cylinder piston cup (-2-) and the rear wheel cylinder piston (-3-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Seal ring shall not be reused.
- Avoid inhaling brake pad dust because it is toxic.
- After installation, exhaust the brake system .=> refer to page 718

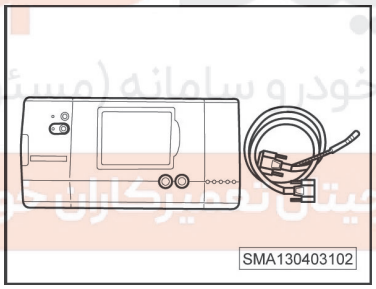
5 ABS (Anti-lock Brake System)

5.1 ABS exhaust

Caution

- Discharged brake fluid cannot be reused.
- Only use the brake fluid approved by Chery Automobile Co., Ltd.; otherwise, it may lead to pipeline corrosion.
- Make sure that the brake fluid is free of contamination.
- Never splash brake fluid on the vehicle; otherwise, it may damage the vehicle paintwork. If the brake fluid splashes on the paintwork, please rinse it with water immediately.
- After air discharge, you shall check the brake oil pipe and the connector for leakage. The brake fluid level in reservior shall be at the MAX mark.

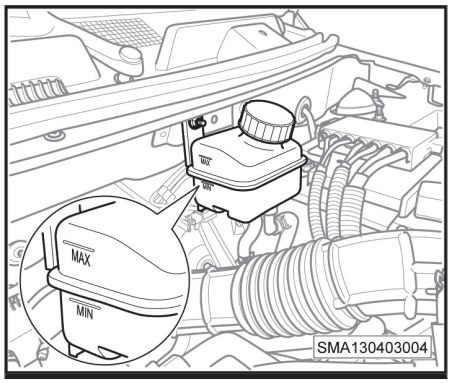
Maintenance tools and common equipment

	
X-431 diagnostic device	

Exhaust

1. Confirm that all brake oil pipes are installed.
2. Use the X-431 diagnostic device to confirm if there is any fault code stored in the ABS control unit. If there is, rectify the fault according to the fault code.
3. Read the fault code again to confirm that any fault code is absent in the ABS control unit.
4. Discharge the air in the regular brake system for the first time .=> refer to page 718
5. Discharge the air in the ABS control unit according to the X-431 diagnostic device. Confirm the discharge of the ABS control unit and disconnect the X-431 diagnostic device.
6. Discharge the air in the regular brake system for the second time .=> refer to page 718

7. Confirm the brake fluid level in reservior at the MAX mark.



8. Take a test drive and confirm air in the pipe has been discharged.

5.2 Removing and installing the ABS control unit

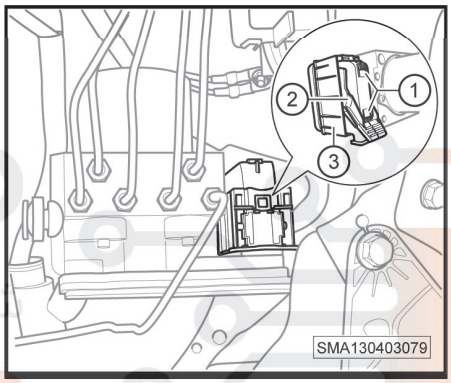
Caution

- When removing the brake pipe, make sure that the pipe is free of contamination.
- Use an oil can to recover the brake fluid draining out of the disconnected pipe to avoid polluting the vehicle and environment.

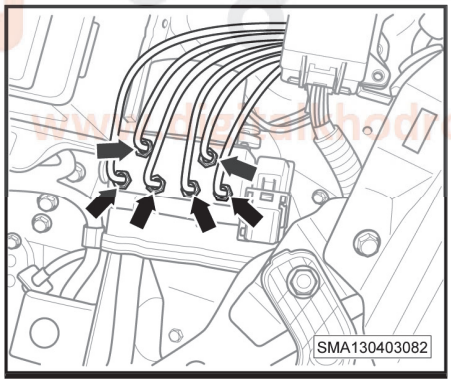
Removal

1. Suction brake fluid from the reservoir with a fluid suction device.
2. Switch off all electrical equipment and the ignition switch .
3. Remove the battery .=> refer to page 975
4. Remove the air filter assembly .=> refer to page 238

5. Press the connector lock button of the ABS control unit (-1-) and then unfold the connector lock bracket (-2-) to disconnect the connector (-3-).

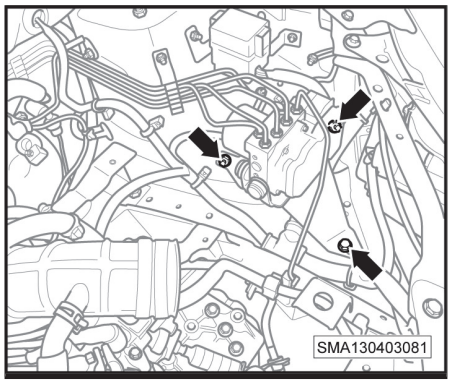


6. Unscrew the brake pipe bolt of the ABS control unit (-arrow-).
   - Tightening torque of the bolt: 18±1 N•m

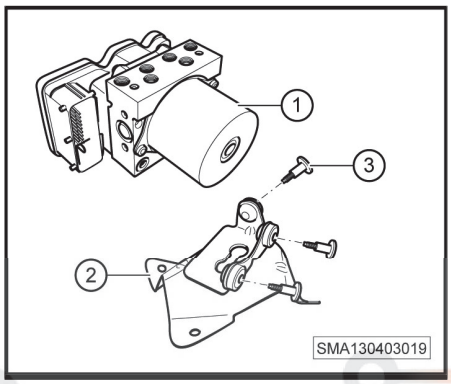


7. Seal the brake pipe and the threaded hole with the seal plug.

8. Unscrew the fixing bolts of the ABS mounting bracket (-arrow-) and remove the ABS control unit together with the mounting bracket.
   - Tightening torque of the bolt: 13±2 N•m



9. Unscrew the coupling bolts (-3-) between the ABS control unit (-1-) and the mounting bracket (-2-) to remove the ABS control unit.
   - Tightening torque of the bolt: 13±2 N•m



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

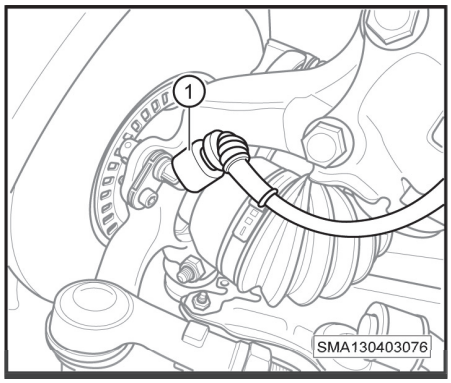
- Only when a brake pipe is installed, can new seal plug on the control unit be removed so as to avoid pollution.
- Check the brake fluid level. Add brake fluid if necessary .
- After installation, power on. Measure the fault code with the diagnostic device and remove it. Test again after completion.
- After installation, exhaust the brake system .=> refer to page 718

5.3 Removing and installing the front wheel speed sensor

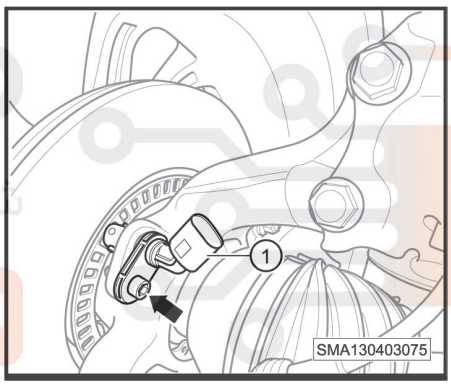
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Lift the vehicle.

4. Disconnect the front wheel speed sensor connector (-1-).



5. Unscrew the fixing bolt of the front wheel speed sensor (-arrow-) to carefully remove the front wheel speed sensor (-1-).
   - Tightening torque of the bolt: 13±2 N•m



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

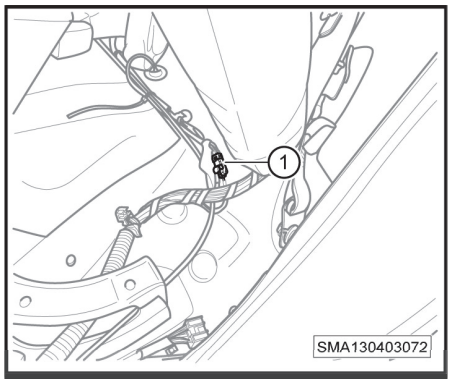
- Clean the internal surface of the installation hole before installing the front wheel speed sensor.
- Tighten the sensor fixing bolts with the specified torque.

5.4 Removing and installing the rear wheel speed sensor

Removal

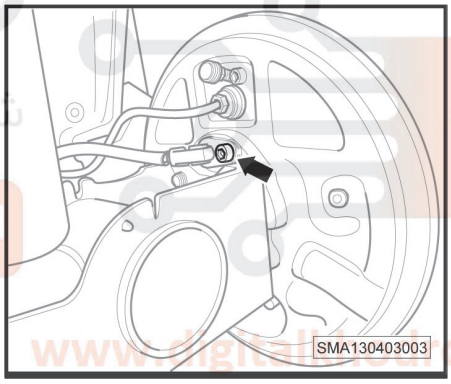
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Remove the rear seat .=> refer to page 833

4. Disconnect the rear wheel speed sensor connector (-1-).

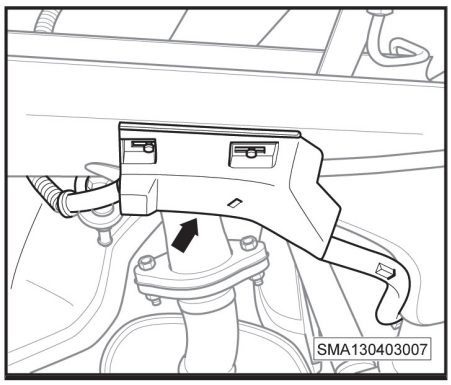


5. Lift the vehicle.

6. Unscrew the fixing bolt of the rear wheel speed sensor (-arrow-).
   - Tightening torque of the bolt: 13±2 N•m



7. Release the rear wheel speed sensor clip from the suspension (-arrow-) to carefully remove the rear wheel speed sensor.



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Clean the internal surface of the installation hole before installing the rear wheel speed sensor.
- Tighten the sensor fixing bolts with the specified torque.

6 Parking Brake System

6.1 Removing and installing the parking brake

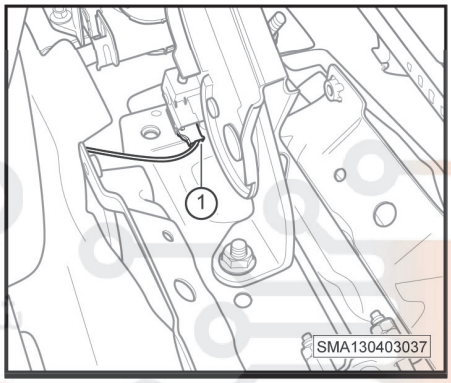
Note

- Please wear necessary protective facilities to avoid accidents.

Removal

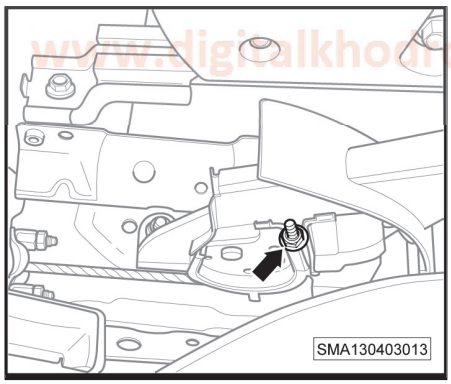
1. Remove the console .=> refer to page 825

2. Disconnect the parking brake switch connector (-1-).

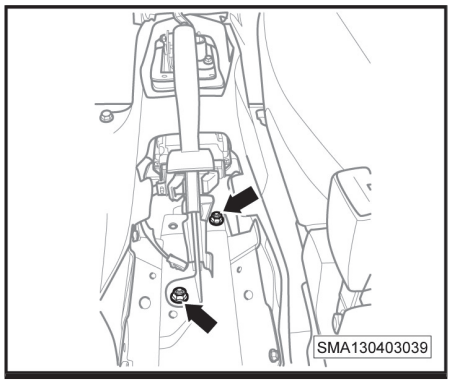


3. Place the parking brake lever at the lowest position.

4. Unscrew the parking brake adjustment bolt (-arrow-).



5. Unscrew the parking brake fixing nut (-arrow-).



6. Remove the parking brake.

Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

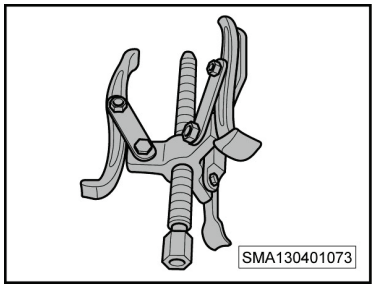
- Check the parking brake lever travel. Adjust it if necessary . => refer to page 692
- Check the parking brake for braking drag.
- Check if the parking brake indicator works normally.

6.2 Removing and installing the parking brake cable

Note

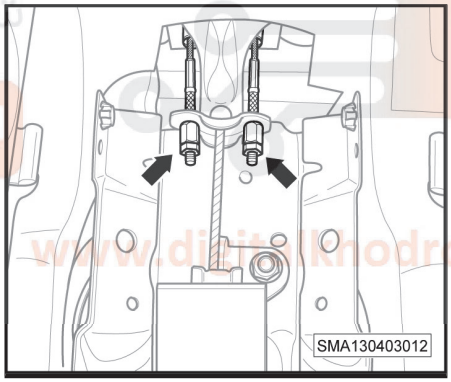
- Please wear necessary protective facilities to avoid accidents.

Maintenance tools and common equipment

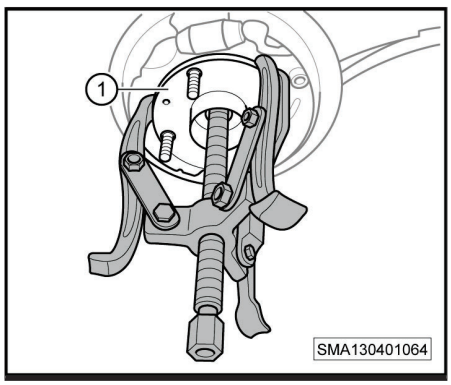
	
Puller	

Removal

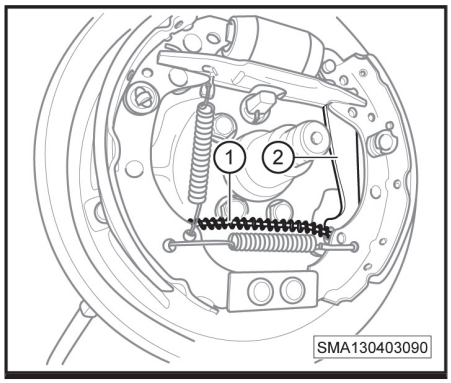
1. Remove the console .=> refer to page 825
2. Place the parking brake lever at the lowest position.
3. Unscrew the parking brake cable bolt (-arrow-).



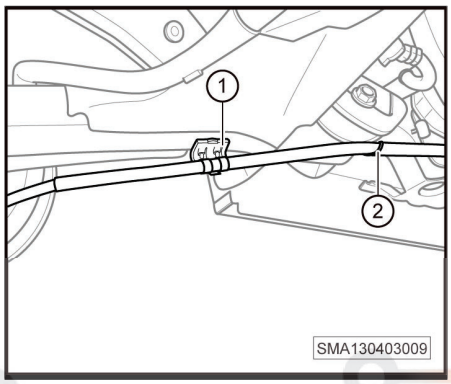
4. Remove the rear brake drum .=> refer to page 726
5. Pull out the rear wheel hub (-1-) with the puller.



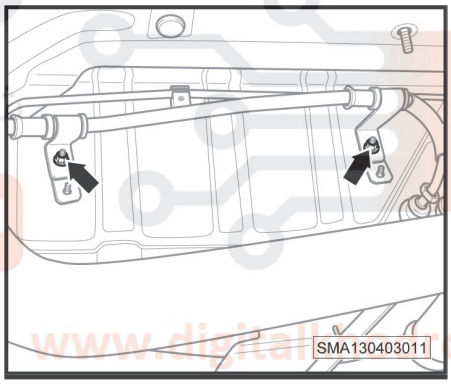
6. Decouple the parking brake cable (-1-) from the brake shoe pushrod (-2-).



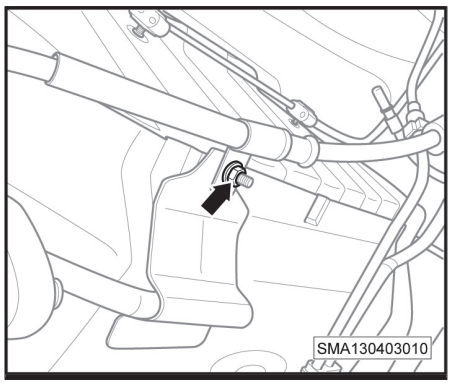
7. Remove the parking brake cable from the clip (-1-) and the hook (-2-) of the rear suspension.



8. Unscrew the left cable fixing nuts of the parking brake (-arrow-).



9. Unscrew the right cable fixing nuts of the parking brake (-arrow-).

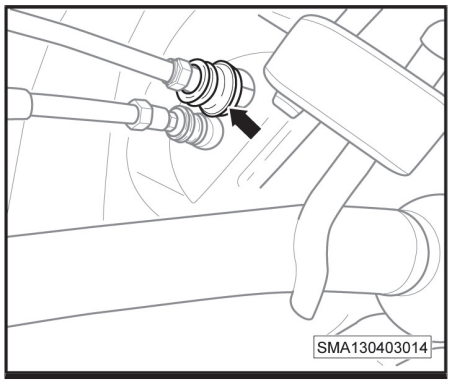


10. Remove the parking brake cable.

Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- When installing the cable, properly install the rubber cover (-arrow-).



- Check the parking brake lever travel. Adjust it if necessary . => refer to page 692
- Check the parking brake for braking drag.