Component Procedures: Wheel Speed Sensor

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Component Procedures: Wheel Speed Sensor

Parts and Labor (itype_189)

Parts

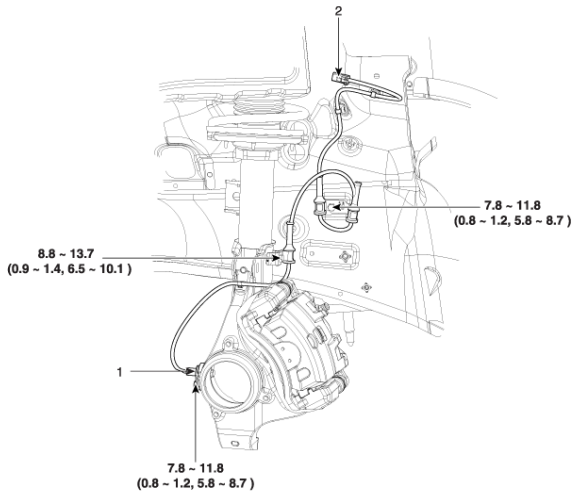
Qualifier	Part #	Name	Price	Note
Anti-Lock Brakes > Front Spe?	59810F2300	Left	297.58	
Anti-Lock Brakes > Front Spe?	59830F2300	Right	297.58	
Anti-Lock Brakes > Front Spe?	59810F3300	Left	372.02	
Anti-Lock Brakes > Front Spe?	59830F3300	Right	372.02	
Anti-Lock Brakes > Rear Spee?	91920F2000	Left	60.94	
Anti-Lock Brakes > Rear Spee?	91921F2000	Right	60.94	
Anti-Lock Brakes > Rear Spee?	91920F3000	Left	132.05	
Anti-Lock Brakes > Rear Spee?	91921F3000	Right	132.05	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Anti-Lock Brakes > Front Speed Sensor, R&R > ?	B	0.6	0.0
Remove & Replace	Anti-Lock Brakes > Front Speed Sensor, R&R > ?	B	1.0	0.0
Remove & Replace	Anti-Lock Brakes > Rear Speed Sensor, R&R > O?	B	1.4	0.0
Remove & Replace	Anti-Lock Brakes > Rear Speed Sensor, R&R > B?	B	2.6	0.0

Front Wheel Speed Sensor (ABS) - Components and Components Location (Article 45197)

- Components

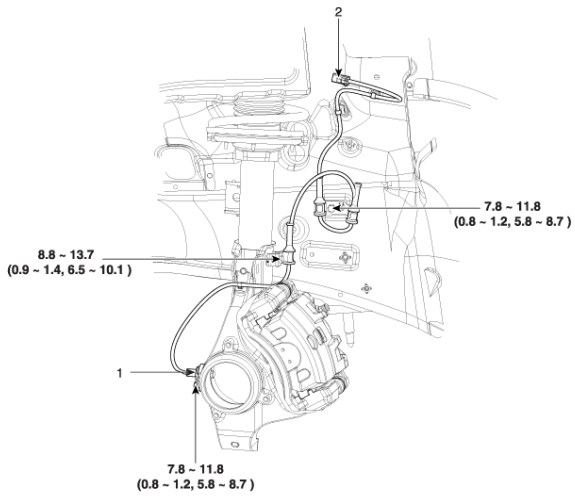


Tightening torque : N.m (kgf.m, lb-ft)

1. Front wheel speed sensor 2. Front wheel speed sensor connector

Front Wheel Speed Sensor (ESC) - Components and Components Location (Article 45211)

- Components

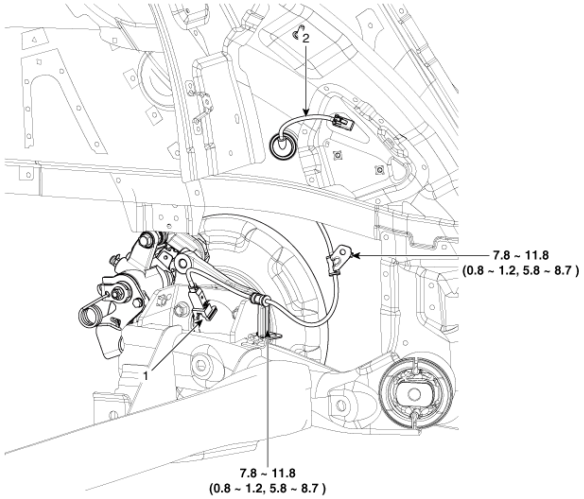


Tightening torque : N.m (kgf.m, lb-ft)

1. Front wheel speed sensor 2. Front wheel speed sensor connector

Rear Wheel Speed Sensor (ABS) - Components and Components Location (Article 45199)

- Components

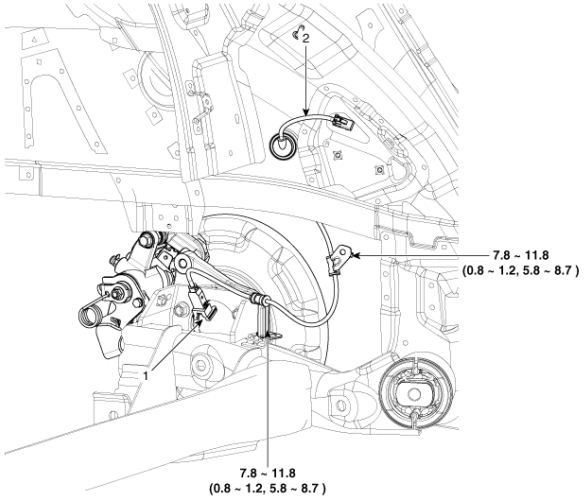


Tightening torque : N.m (kgf.m, lb-ft)

1. Rear wheel speed sensor 2. Rear wheel speed sensor cable

Rear Wheel Speed Sensor (ESC) - Components and Components Location (Article 45213)

- Components



Tightening torque : N.m (kgf.m, lb-ft)

1. Rear wheel speed sensor 2. Rear wheel speed sensor cable

Front Wheel Speed Sensor (ABS) - Repair Procedures (Article 45198)

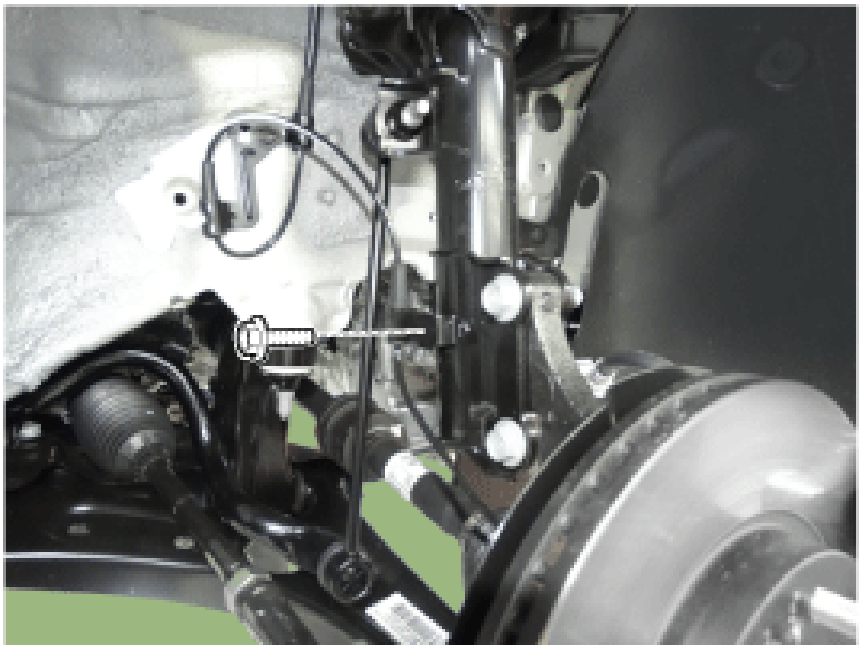
- Removal

- Loosen the wheel nuts slightly. Raise the vehicle, and make sure it is securely supported.
- Remove the front wheel and tire (A) from front hub. Tightening torque : 107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft) Be careful not to damage the hub bolts when removing the front wheel and tire (A).

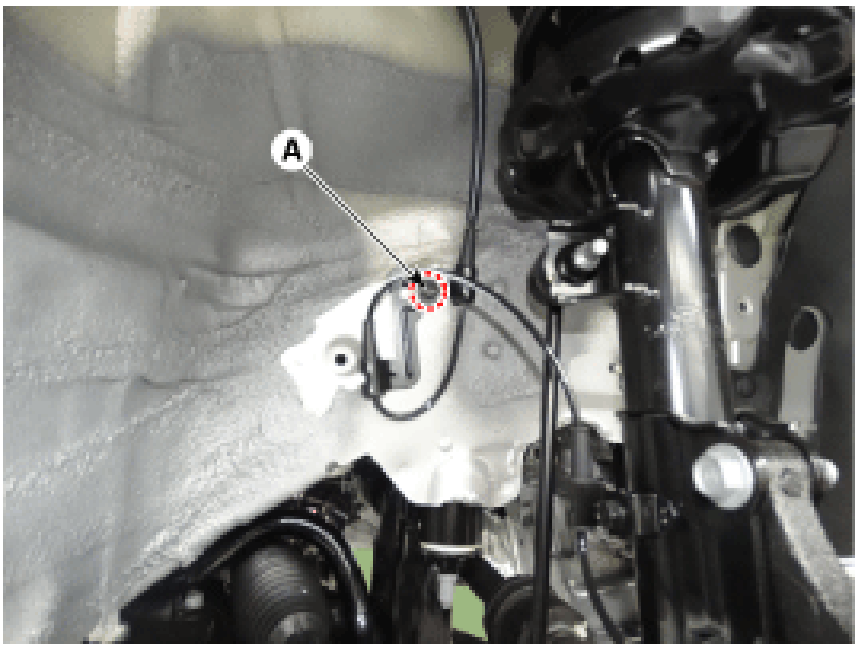
Be careful not to damage the hub bolts when removing the front wheel and tire (A).

NOTICE

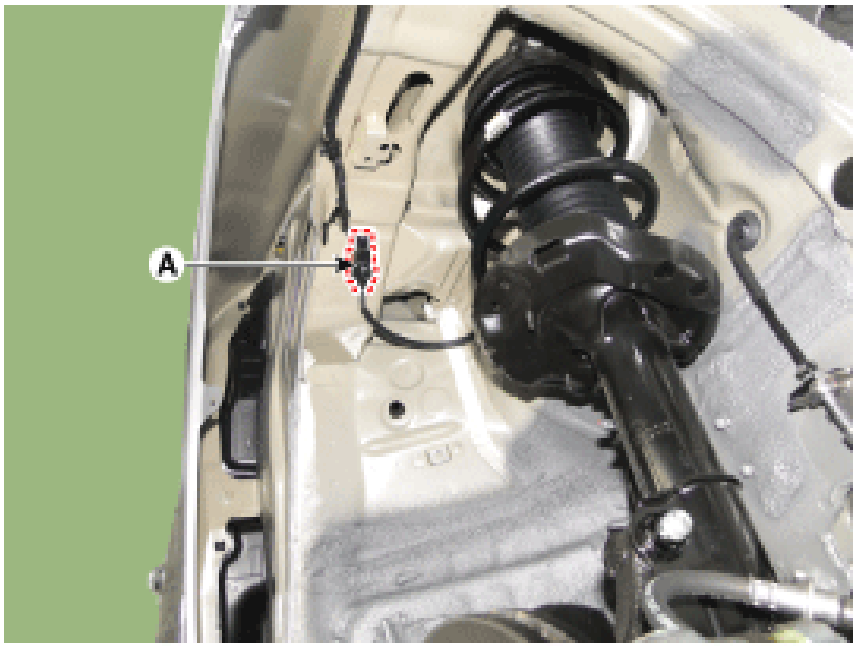
- Be careful not to damage the hub bolts when removing the front wheel and tire (A).
- Loosen the mounting holt and then remove the wheel speed sensor cable from the strut assembly. Tightening torque : 8.8 - 13.7 N.m(0.9 - 1.4 kgf.m, 6.5 - 10.1 lb-ft)



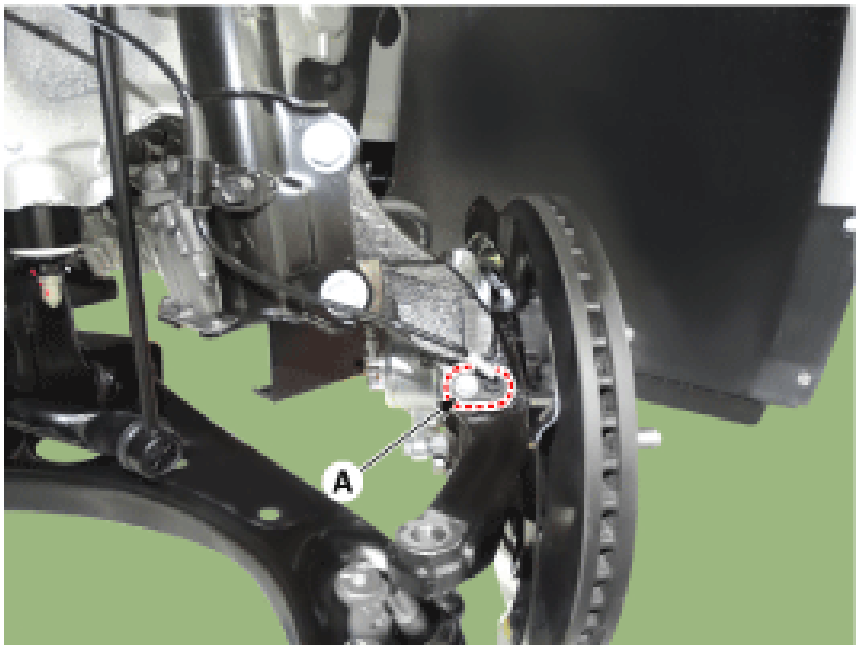
- Remove the wheel speed sensor cable braket bolt (A). Tightening torque : 7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



- Remove the front wheel guard.
- Disconnect the wheel speed sensor connector (A) and then remove it.



- Loosen the bolt and then remove the wheel speed sensor (A). Tightening torque : 7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



- To install, reverse the removal procedure.

- Inspection

- Measure the output voltage between the terminal of the wheel speed sensor and the body ground. In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.

In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.

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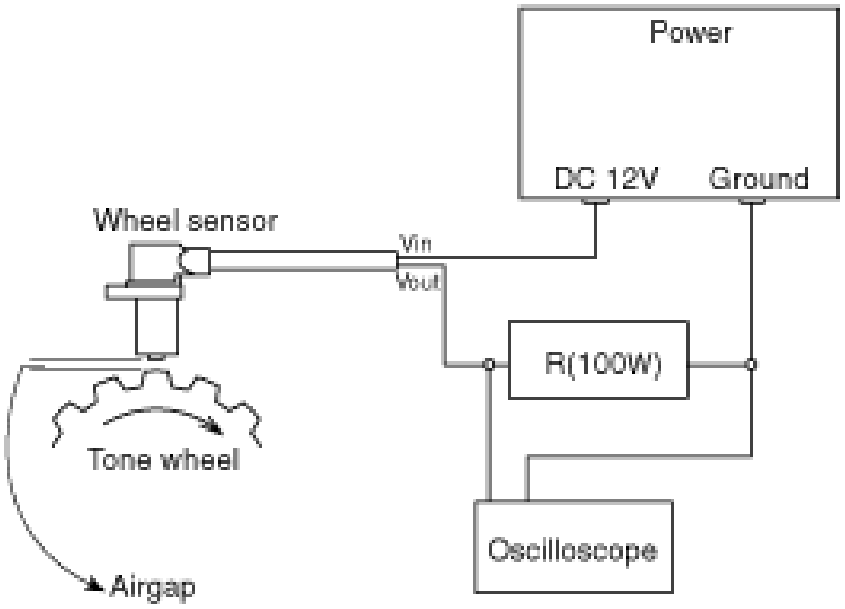
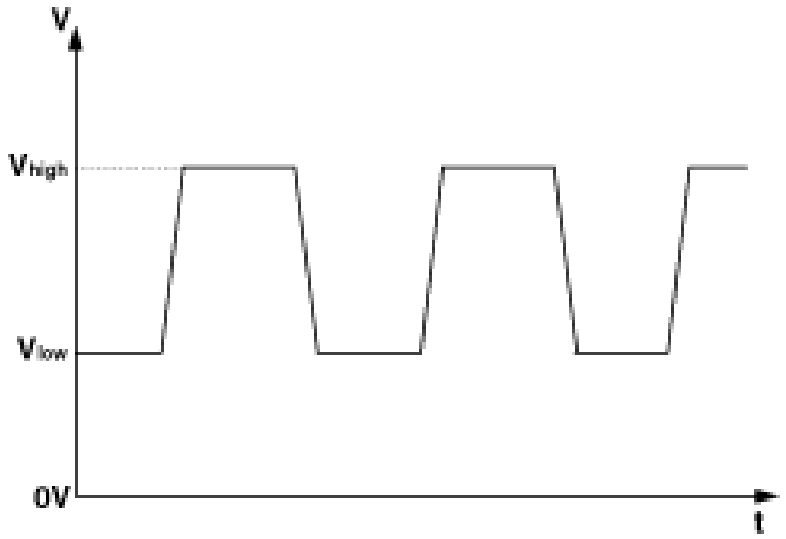


- Compare the change of the output voltage of the wheel speed sensor to the normal change of the output voltage as shown below. V_low : 0.59V - 0.84V V_high : 1.18V - 1.68V Frequency range : 1 - 2,500 Hz



Front Wheel Speed Sensor (ESC) - Repair Procedures (Article 45212)

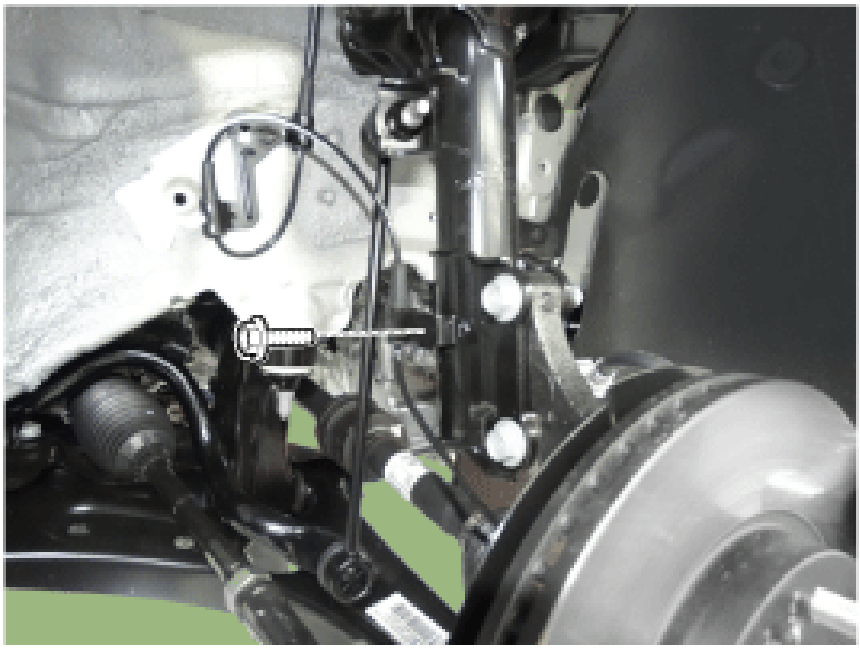
- Removal

- Loosen the wheel nuts slightly. Raise the vehicle, and make sure it is securely supported.
- Remove the front wheel and tire (A) from front hub. Tightening torque : 107.9 - 127.5 N.m (11.0 - 13.0 kgf.m, 79.6 - 94.0 lb-ft) Be careful not to damage the hub bolts when removing the front wheel and tire (A).

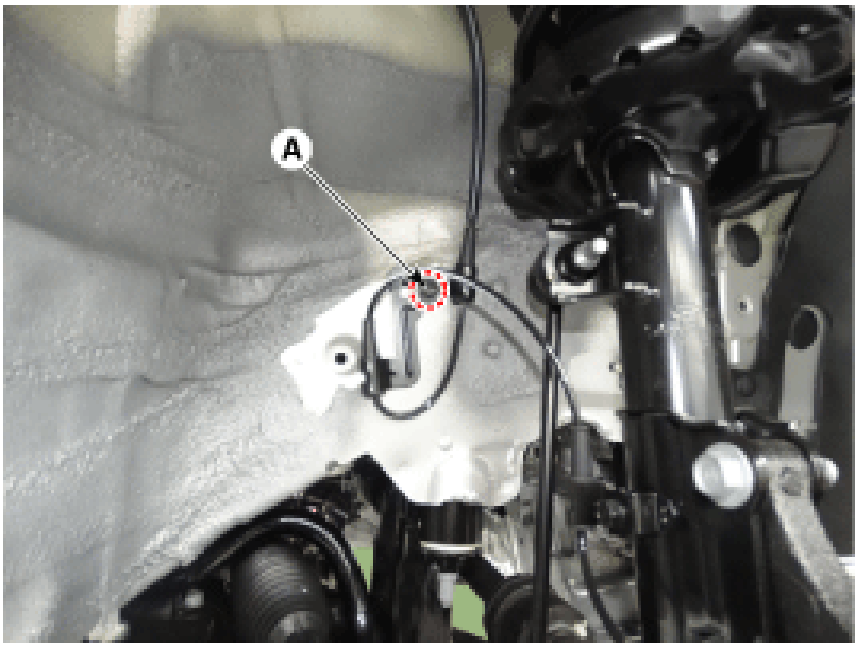
Be careful not to damage the hub bolts when removing the front wheel and tire (A).

NOTICE

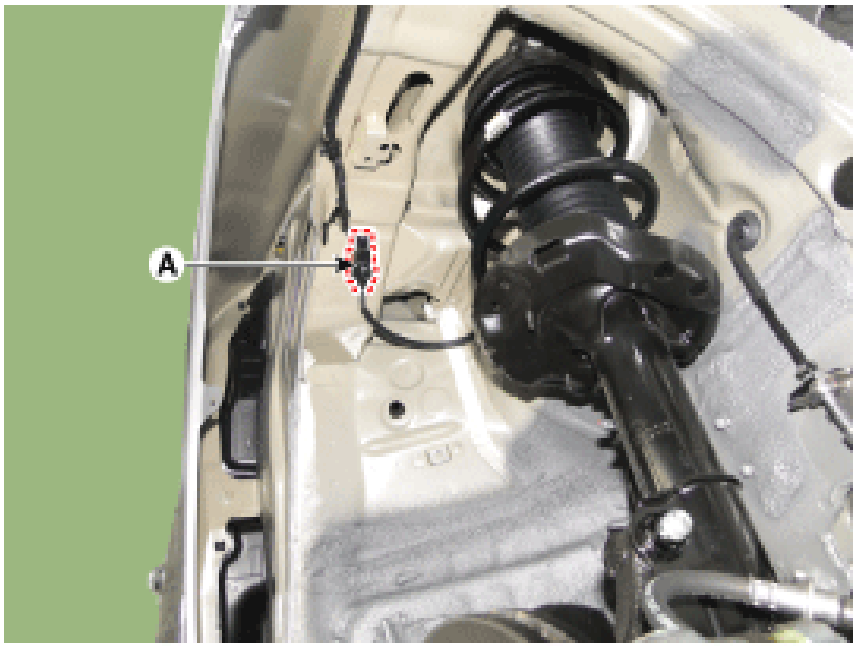
- Be careful not to damage the hub bolts when removing the front wheel and tire (A).
- Loosen the mounting holt and then remove the wheel speed sensor cable from the strut assembly. Tightening torque : 8.8 - 13.7 N.m(0.9 - 1.4 kgf.m, 6.5 - 10.1 lb-ft)



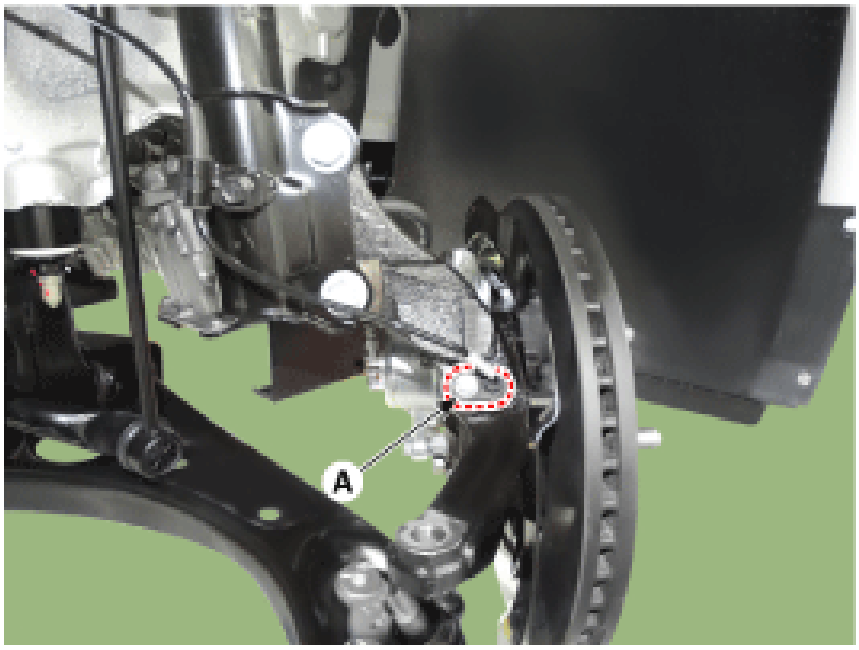
- Remove the wheel speed sensor cable braket bolt (A). Tightening torque : 7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



- Remove the front wheel guard.
- Disconnect the wheel speed sensor connector (A) and then remove it.



- Loosen the bolt and then remove the wheel speed sensor (A). Tightening torque : 7.8 - 11.8 N.m (0.8 - 1.2 kgf.m, 5.8 - 8.7 lb-ft)



- To install, reverse the removal procedure.
- Inspection
- Measure the output voltage between the terminal of the wheel speed sensor and the body ground. In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.
In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.
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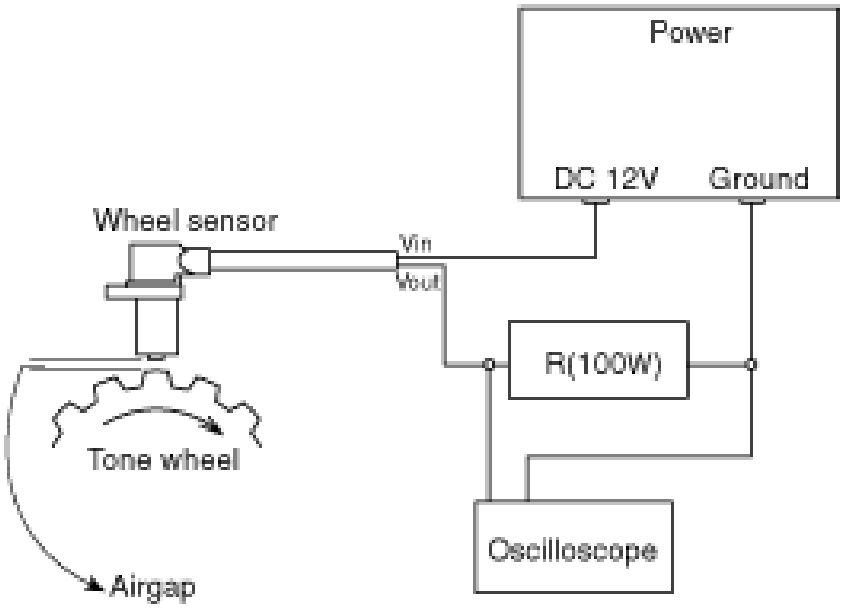
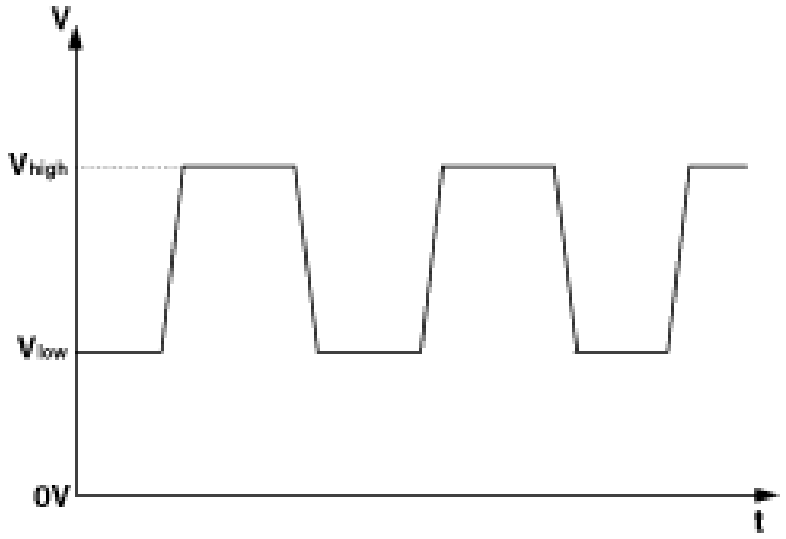


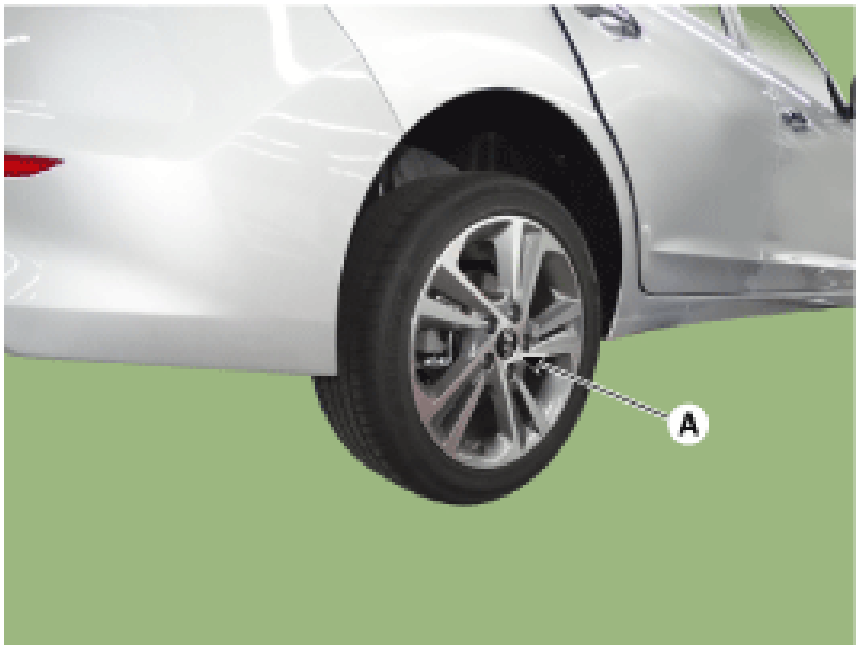
- Compare the change of the output voltage of the wheel speed sensor to the normal change of the output voltage as shown below. V_low : 0.59V - 0.84V V_high : 1.18V - 1.68V Frequency range : 1 - 2,500 Hz



Rear Wheel Speed Sensor (ABS) - Repair Procedures (Article 45200)

- Removal

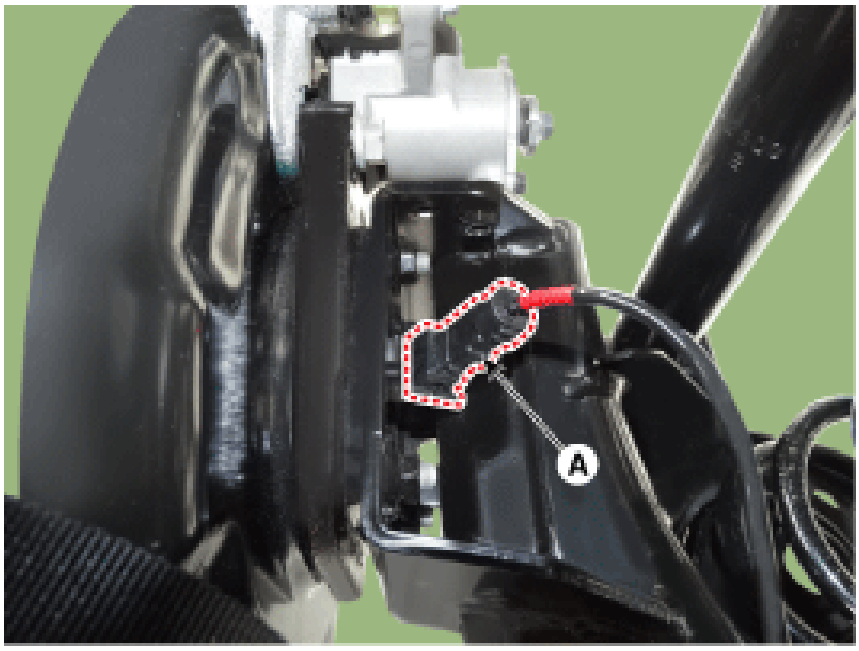
- Remove the rear wheel and tire (A) from the rear hub. Tightening torque : 88.3 - 107.9 N.m (9.0 - 11.0 kgf.m, 65.1 - 79.6 lb.ft) Be careful not to damage the hub bolts when removing the rear wheel and tire (A).



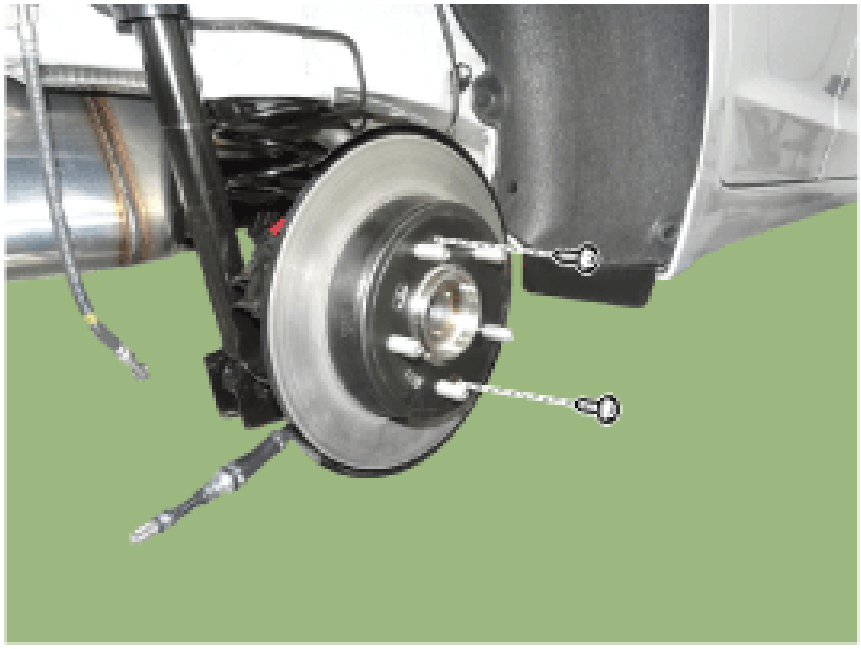
Be careful not to damage the hub bolts when removing the rear wheel and tire (A).

- Be careful not to damage the hub bolts when removing the rear wheel and tire (A).
- Disconnect the rear wheel speed sensor connector (A). Tightening torque : 6.9 - 10.8 N.m (0.7 - 1.1 kgf.m,

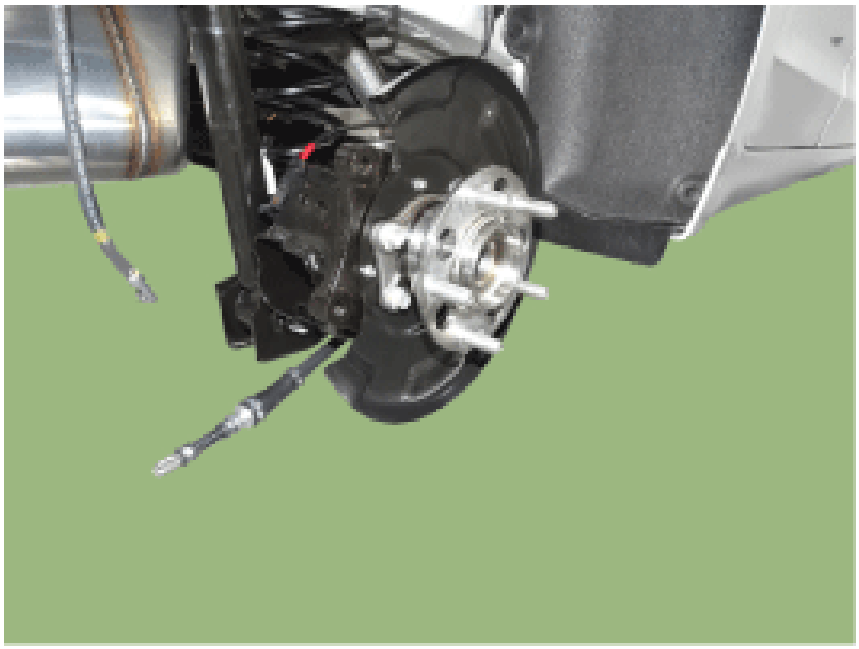
5.1 - 7.9 lb.ft)



- Remove the rear caliper. (Refer to Brake System - "Rear Disc Brake")
- Loosen the screw and then remove the brake disc . Tightening torque : 4.9 - 5.9 N.m (0.5 - 0.6 kgf.m, 3.6 - 4.3 lb.ft)



- Loosen the hub bearing bolt and then remove the hub bearing. Tightening torque : 49.0 - 58.8 N.m (5.0 - 6.0 kgf.m, 36.1 - 43.3 lb-ft)



- To install, reverse the removal procedures.

- Inspection

- Measure the output voltage between the terminal of the wheel speed sensor and the body ground. In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.

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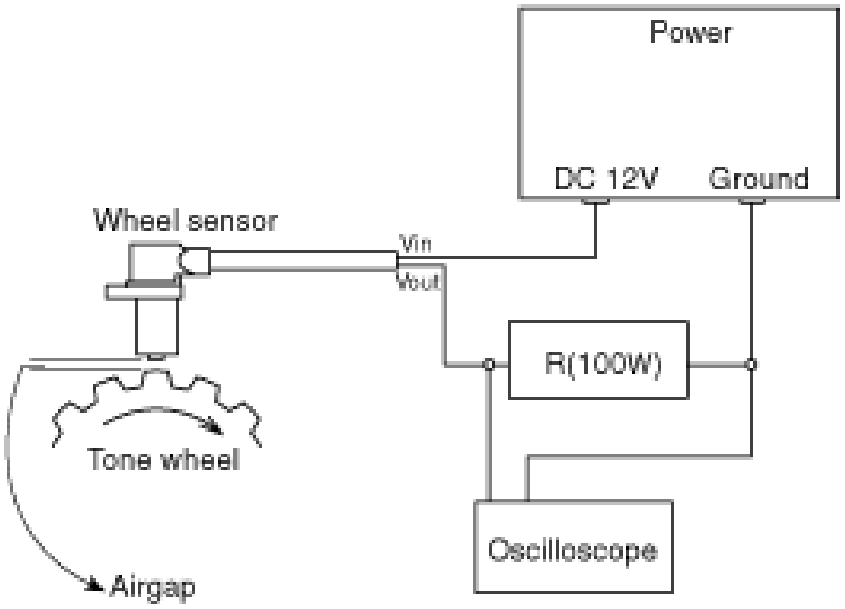
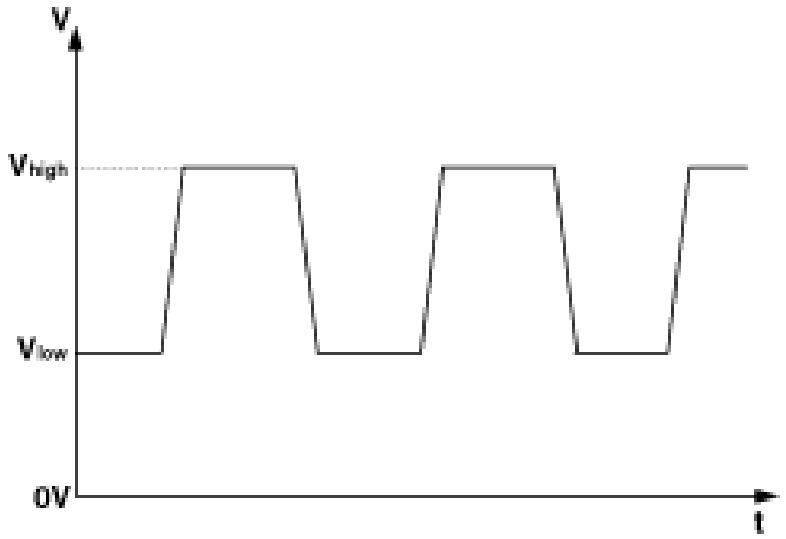


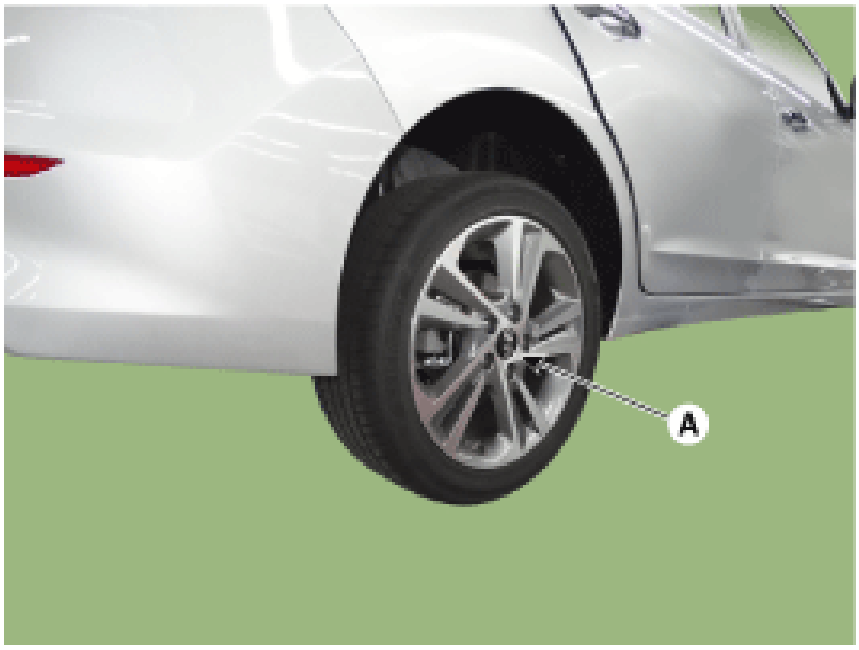
- Compare the change of the output voltage of the wheel speed sensor to the normal change of the output voltage as shown below. V_low : 0.59V - 0.84V V_high : 1.18V - 1.68V Frequency range : 1 - 2,500 Hz



Rear Wheel Speed Sensor (ESC) - Repair Procedures (Article 45214)

- Removal

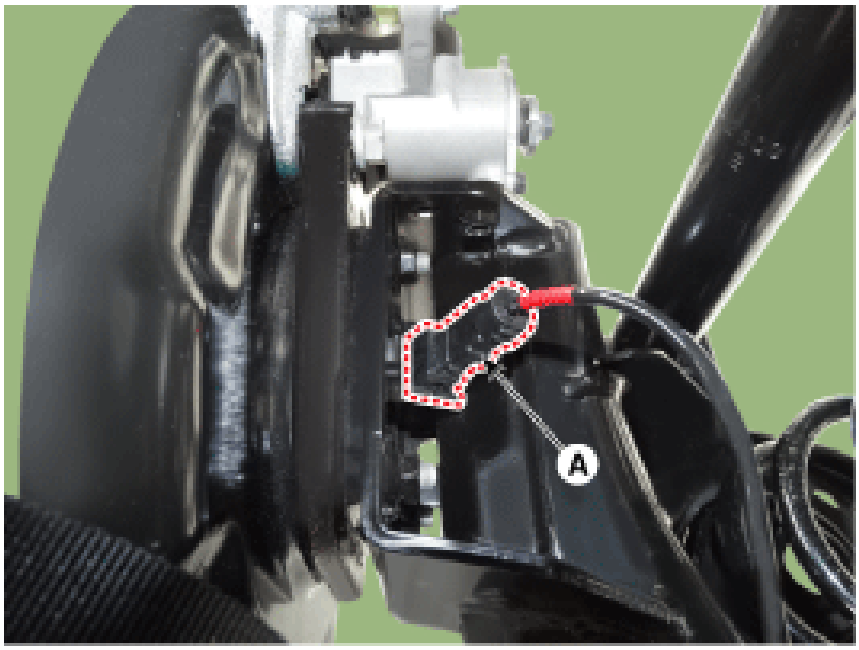
- Remove the rear wheel and tire (A) from the rear hub. Tightening torque : 88.3 - 107.9 N.m (9.0 - 11.0 kgf.m, 65.1 - 79.6 lb.ft) Be careful not to damage the hub bolts when removing the rear wheel and tire (A).



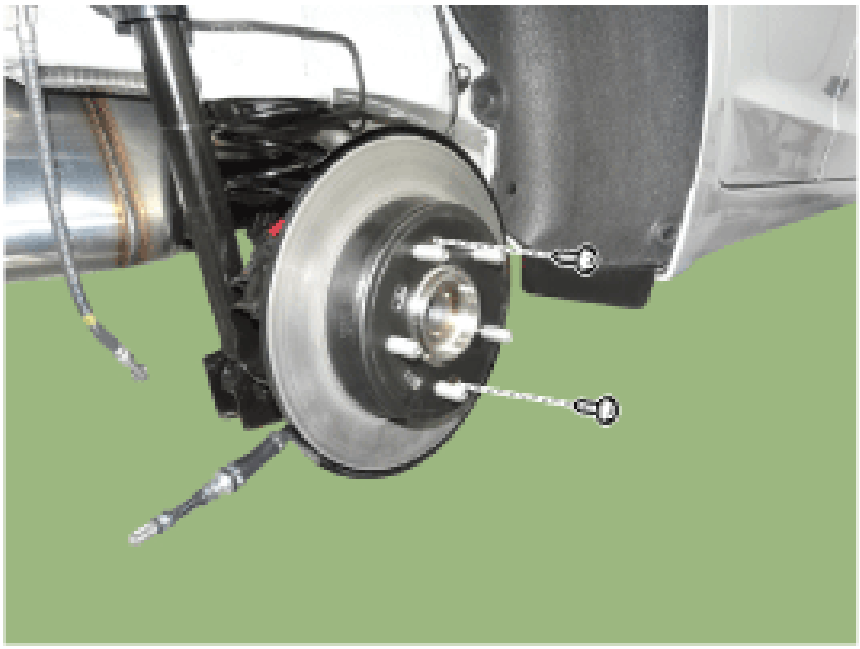
Be careful not to damage the hub bolts when removing the rear wheel and tire (A).

NOTICE

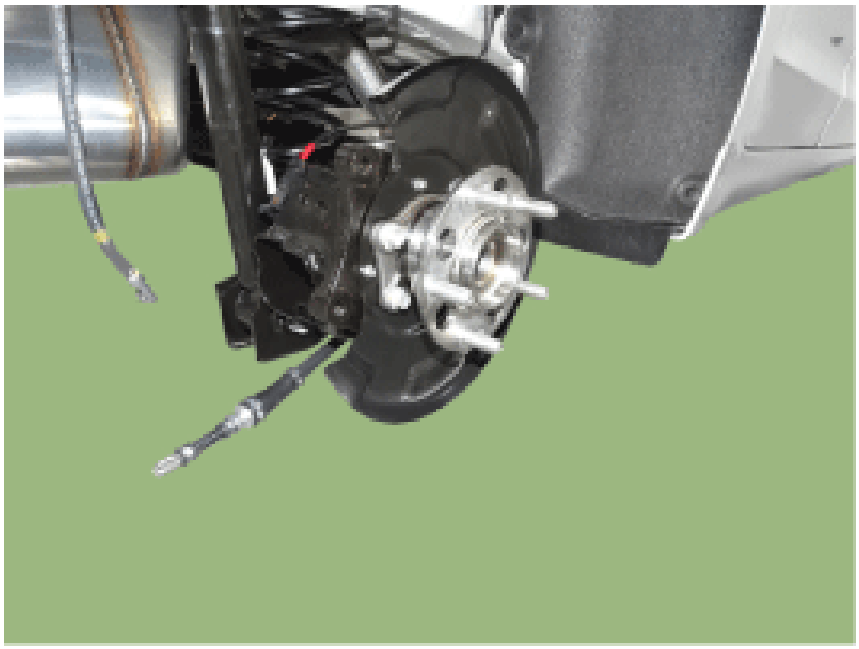
- Be careful not to damage the hub bolts when removing the rear wheel and tire (A).
- Disconnect the rear wheel speed sensor connector (A). Tightening torque : 6.9 - 10.8 N.m (0.7 - 1.1 kgf.m, 5.1 - 7.9 lb.ft)



- Remove the rear caliper. (Refer to Brake System - "Rear Disc Brake")
- Loosen the screw and then remove the brake disc . Tightening torque : 4.9 - 5.9 N.m (0.5 - 0.6 kgf.m, 3.6 - 4.3 lb.ft)



- Loosen the hub bearing bolt and then remove the hub bearing. Tightening torque : 49.0 - 58.8 N.m (5.0 - 6.0 kgf.m, 36.1 - 43.3 lb-ft)



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- Inspection
- Measure the output voltage between the terminal of the wheel speed sensor and the body ground. In order to protect the wheel speed sensor, when measuring output voltage, a 100Ω resister must be used as shown.
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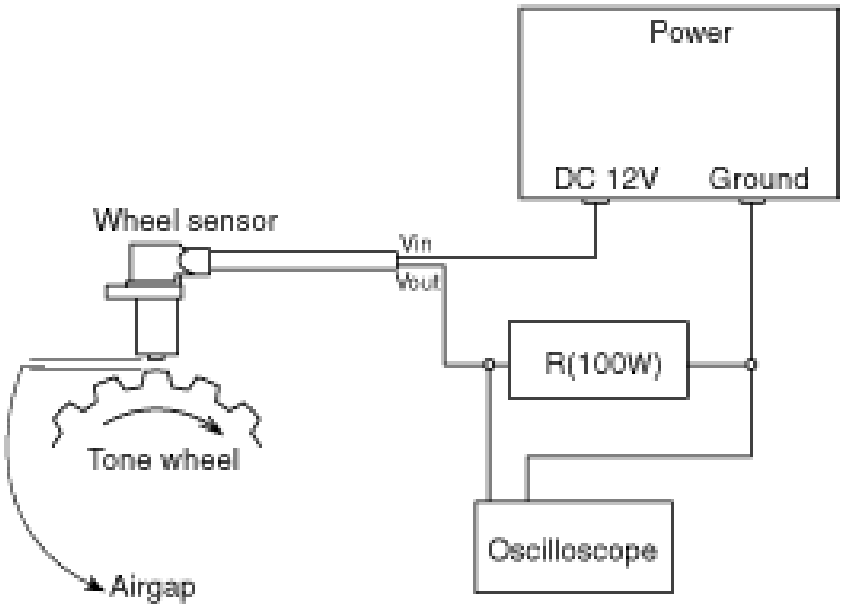
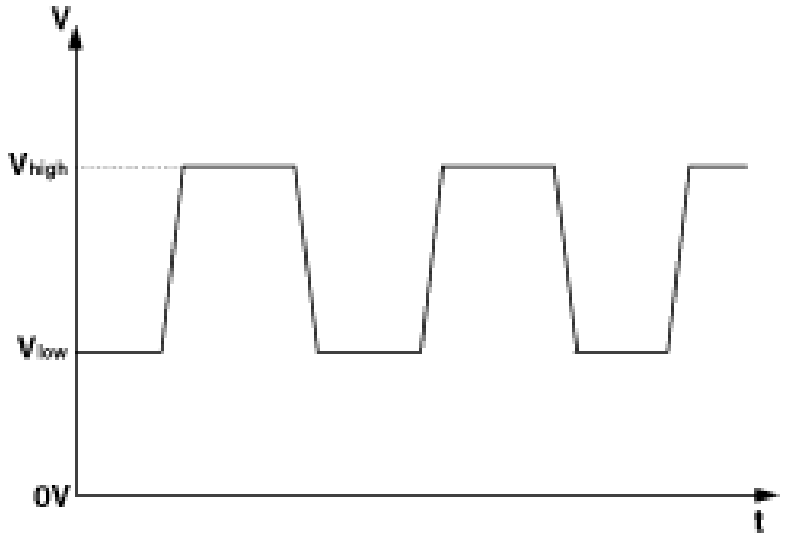


- Compare the change of the output voltage of the wheel speed sensor to the normal change of the output voltage as shown below. V_low : 0.59V - 0.84V V_high : 1.18V - 1.68V Frequency range : 1 - 2,500 Hz


V
V high
V low
0V
t