



Technical Service Bulletin

SUBJECT:		No:	TSB-12-35-002
ABS/ASC STEERING WHEEL SENSOR - SERVICE MANUAL REVISION		DATE:	September, 2012
		MODEL:	See below
CIRCULATE TO:	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

TSB Revision: TSB-11-35-002

PURPOSE

A modified Active Stability Control (ASC) steering wheel sensor is installed on affected vehicles produced since 3/1/2010 and supersedes the original sensor as the service part for earlier models. **Do not rotate this new sensor before installation.**

This TSB provides revised ABS/ASC steering wheel sensor procedures for the new sensor.

AFFECTED VEHICLES

ASC-equipped models:

- 2007-2012 Outlander
- 2008-2011 Lancer Evolution
- 2010-2012 Lancer and Lancer Sportback
- 2010-2012 Galant
- 2008-2012 Eclipse
- 2008-2012 Eclipse Spyder
- 2004-2011 Endeavor

AFFECTED SERVICE MANUALS

- 2007 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2008 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2009 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2010 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2011 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2012 Outlander Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2008 Lancer Evolution Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2010 Lancer Evolution Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2011 Lancer Evolution Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2010 Lancer Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2011 Lancer/Lancer Sportback Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2012 Lancer/Lancer Sportback Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2010 Lancer Sportback Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2010 Galant Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2011 Galant Service Manual Group 35C - Steering Wheel Sensor Removal and Installation
- 2012 Galant Service Manual Group 35C - Steering Wheel Sensor Removal and Installation

The information contained in this bulletin is subject to change. For the latest version of this document, go to the Mitsubishi Dealer Link, MEDIC, or the Mitsubishi Service Information website (www.mitsubishitechinfo.com).

AFFECTED SERVICE MANUALS (continued)

- 2008 Eclipse/Eclipse Spyder Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2009 Eclipse/Eclipse Spyder Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2010 Eclipse/Eclipse Spyder Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2011 Eclipse/Eclipse Spyder Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2012 Eclipse/Eclipse Spyder Service Manual Group 35C – Steering Wheel Sensor Removal and Installation

- 2004 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2005 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2006 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2007 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2008 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2009 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2010 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation
- 2011 Endeavor Service Manual Group 35C – Steering Wheel Sensor Removal and Installation

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:
 2007, 2008, 2009, 2010 Outlander
 2010 Lancer
 2011, 2012 Lancer/Lancer Sportback

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

M1355005100629

CAUTION

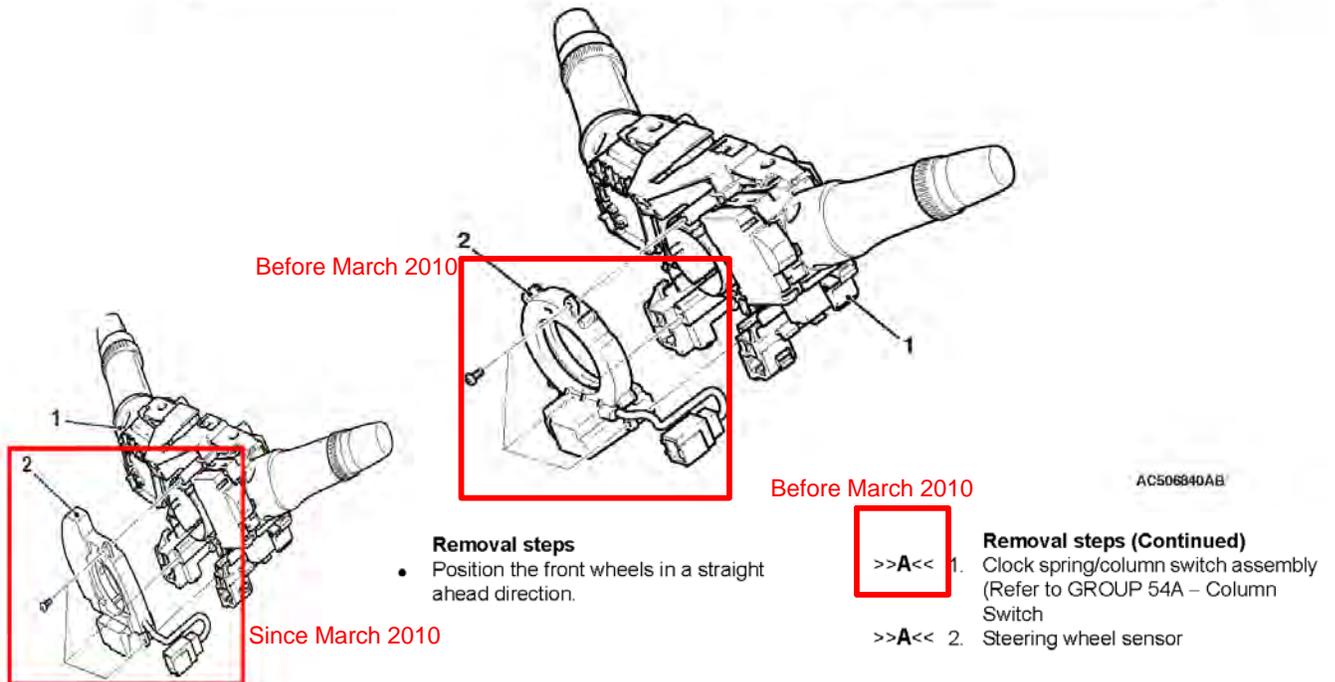
- Be sure to remove the clock spring from the column switch and center the clock spring to prevent the damage of steering wheel sensor.
- If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.
- Before removing the steering wheel/air bag module assembly, refer to GROUP 52B – Service Precautions and Driver's Air Bag Module Clock Spring
- When the steering wheel sensor is replaced or reinstalled, always carry out calibration to make ASC-ECU learn the neutral point

Pre-removal operation

- Driver's airbag module assembly and steering wheel assembly removal (Refer to GROUP 37A – Steering Wheel)

Post-installation operation

- Driver's airbag module assembly and steering wheel assembly installation (Refer to GROUP 37A – Steering Wheel)
- Perform steering wheel calibration



Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:

2007, 2008, 2009, 2010 Outlander

2010 Lancer

2011, 2012 Lancer/Lancer Sportback

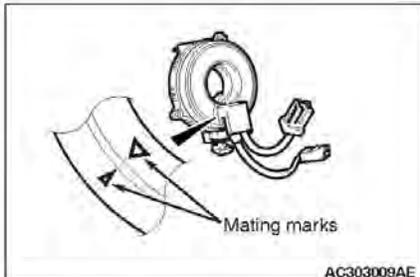
Before March 2010

INSTALLATION SERVICE POINT

>>A<< STEERING WHEEL SENSOR/CLOCK SPRING/COLUMN SWITCH ASSEMBLY INSTALLATION

⚠ CAUTION

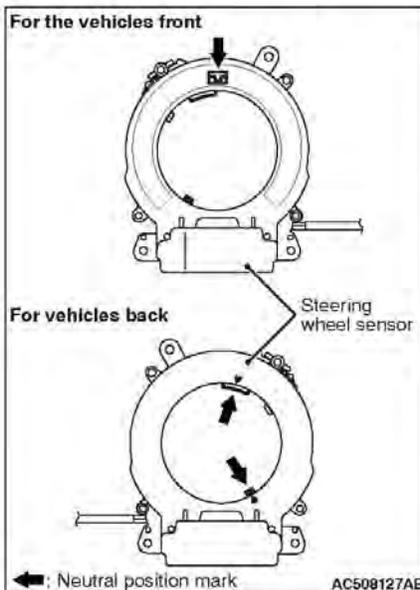
- Be sure to remove the clock spring from the column switch and center the clock spring to prevent the damage of steering wheel sensor.
 - If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.
1. Align the mating marks of the clock spring.
<Alignment of mating marks>
 - (1) Turn the clock spring clockwise fully.
 - (2) Turn the clock spring counterclockwise approximately three and 3/4 turns to align the mating marks.
 - (3) Install the clock spring to the column switch.



⚠ CAUTION

Always align three mating marks of the steering wheel sensor simultaneously as shown in the figure. If these mating marks are not aligned correctly, the steering wheel sensor may be damaged.

2. Align three mating marks of the steering wheel sensor simultaneously as shown in the figure.
<Alignment of mating marks>
 - (1) Check the window for inspecting the neutral position of the steering wheel sensor. If the mating marks cannot be seen from the window, align the mating marks as shown in the figure.
 - (2) Install the steering wheel sensor to the column switch assembly, maintaining the neutral position correctly.
NOTE: A new steering wheel sensor has a pin for preventing the rotation of (fixing) the steering wheel sensor. After installing the column switch assembly, remove this pin.
 - (3) Install the column switch assembly to the vehicle, maintaining the neutral position correctly.



Since March 2010

REMOVAL SERVICE POINT

<<A>> STEERING WHEEL SENSOR REMOVAL

! CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part.

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manual:
 2008, 2010 Lancer Evolution

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

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⚠ CAUTION

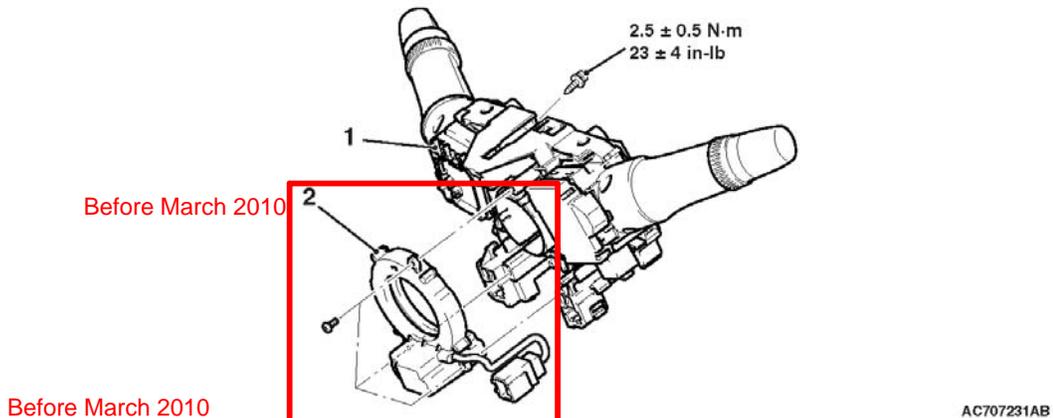
- Always align the center of the clock spring before installing the steering wheel sensor. Otherwise, the sensor can be damaged.
- If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.
- Before removing the steering wheel assembly and driver's air bag module, always refer to GROUP 52B –Service Precautions and Driver's Air bag Module and Clock Spring
- When the steering wheel sensor is replaced, always carry out calibration to make ASC-ECU learn the neutral point.

Pre-removal operation

- Position the front wheels in a straight ahead direction.
- Driver's air bag module removal (Refer to GROUP 52B – Driver's Air bag Module and Clock Spring)
- Steering wheel assembly removal (Refer to GROUP 37 – Steering Wheel)
- Steering column upper cover and steering column lower cover removal (Refer to GROUP 37 –Steering Shaft)
- Paddle shift assembly removal (Refer to GROUP 37 – Steering Shaft)

Post-installation operation

- Paddle shift assembly installation (Refer to GROUP 37 – Steering Shaft)
- Steering column upper cover and steering column lower cover installation (Refer to GROUP 37 –Steering Shaft)
- Steering wheel assembly installation (Refer to GROUP 37 –Steering Wheel)
- Driver's air bag module installation (Refer to GROUP 52B –Driver's Air bag Module and Clock Spring)
- Performing the steering wheel calibration



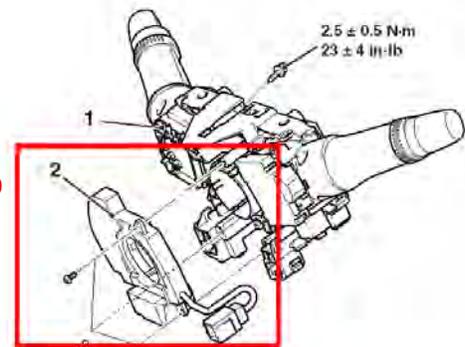
Before March 2010

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Removal steps

1. column switch assembly
2. Steering wheel sensor

Since March 2010



Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manual:
2008, 2010 Lancer Evolution

Before March 2010

INSTALLATION SERVICE POINT

>>A<< NEUTRAL POSITIONING OF STEERING WHEEL SENSOR

⚠ CAUTION

- Always align the center of the clock spring before installing the steering wheel sensor. Otherwise, the sensor can be damaged.
- If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.

1. Align the mating marks of the clock spring.

<Alignment of mating marks>

- (1) Turn the clock spring clockwise fully.
- (2) Turn the clock spring counterclockwise approximately three and 3/4 turns to align the mating marks.
- (3) Check that the white roller is visible from the window for checking the neutral point with the mating marks being aligned.

NOTE: If the white roller is invisible, the neutral point is

⚠ CAUTION *ned correctly.*

Always align three mating marks of the steering wheel sensor simultaneously as shown in the figure. If these mating marks are not aligned correctly, the steering wheel sensor may be damaged.

2. Align three mating marks of the steering wheel sensor simultaneously as shown in the figure.

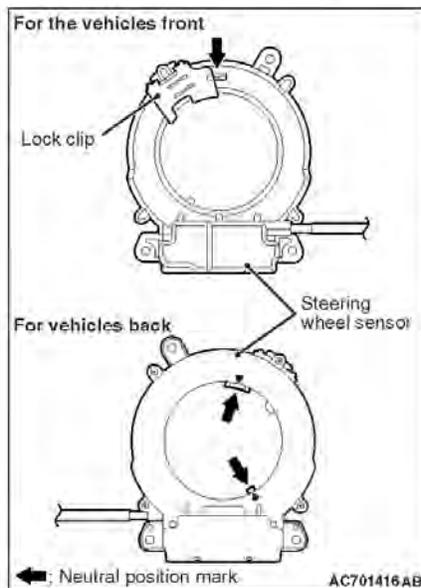
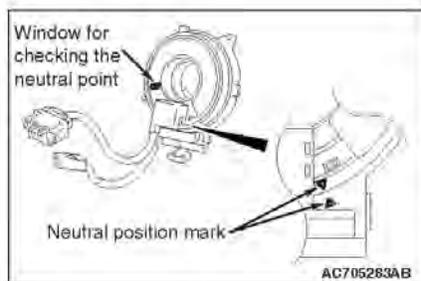
<Alignment of mating marks>

- (1) Check the window for inspecting the neutral position of the steering wheel sensor. If the mating marks cannot be seen from the window, align the mating marks as shown in the figure.

- (2) Install the steering wheel sensor to the column switch assembly, maintaining the neutral position correctly.

NOTE: A new steering wheel sensor has a lock clip for preventing the rotation of (fixing) the steering wheel sensor. After installing the column switch assembly, remove this lock clip.

- (3) Install the column switch assembly to the vehicle, maintaining the neutral position correctly.



Since March 2010

REMOVAL SERVICE POINT

<<A>> STEERING WHEEL SENSOR REMOVAL

⚠ CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part.

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manual:
2011 Lancer Evolution page 35C-310

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

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CAUTION

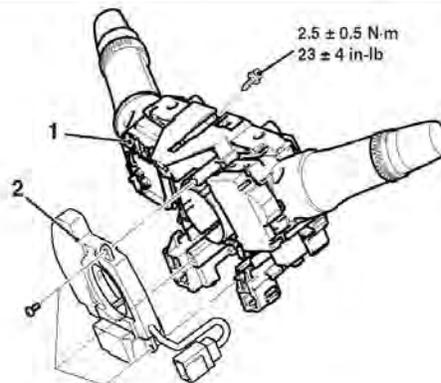
- Always align the center of the clock spring before installing the steering wheel sensor. Otherwise, the sensor can be damaged.
- If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.
- Before removing the steering wheel assembly and driver's air bag module, always refer to GROUP 52B – Service Precautions P.52B-24 and Driver's Air bag Module and Clock Spring P.52B-420.
- When the steering wheel sensor is replaced, always carry out calibration to make ASC-ECU learn the neutral point (Refer to P.35C-294).

Pre-removal operation

- Position the front wheels in a straight ahead direction.
- Driver's air bag module removal (Refer to GROUP 52B – Driver's Air bag Module and Clock Spring P.52B-420.)
- Steering wheel assembly removal (Refer to GROUP 37 – Steering Wheel P.37-30.)
- Steering column upper cover and steering column lower cover removal (Refer to GROUP 37 – Steering Shaft P.37-34.)
- Paddle shift assembly removal (Refer to GROUP 37 – Steering Shaft P.37-34.) <Vehicles with paddle shift>

Post-installation operation

- Paddle shift assembly installation (Refer to GROUP 37 – Steering Shaft P.37-34.) <Vehicles with paddle shift>
- Steering column upper cover and steering column lower cover installation (Refer to GROUP 37 – Steering Shaft P.37-34.)
- Steering wheel assembly installation (Refer to GROUP 37 – Steering Wheel P.37-30.)
- Driver's air bag module installation (Refer to GROUP 52B – Driver's Air bag Module and Clock Spring P.52B-420.)
- Performing the steering wheel calibration (Refer to P.35C-294.)



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Removal steps

1. Clock spring/column switch assembly (Refer to GROUP 54A – Column Switch P.54A-324).
2. Steering wheel sensor

<<A>>

REMOVAL SERVICE POINT

Before March 2010 only

<<A>> STEERING WHEEL SENSOR REMOVAL

CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part by 360° or more.

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manual:
2011–2012 Outlander Sport

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

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CAUTION

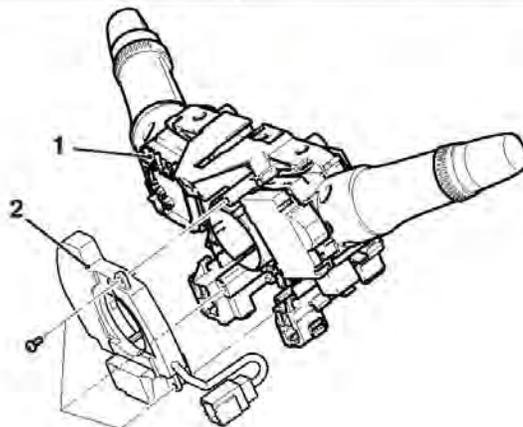
- Always align the center of the clock spring before installing the steering wheel sensor. Otherwise, the sensor can be damaged.
- If the center of the clock spring is not correctly aligned, the steering wheel may not be turned fully or the cable inside the clock spring may be broken, causing the SRS air bag to be inoperative or operated incorrectly.
- Before removing the steering wheel/air bag module assembly, refer to GROUP 52B – Service Precautions P.52B-25 and Air Bag Module Clock Spring P.52B-439.
- When the steering wheel sensor is replaced or reinstalled, always carry out calibration to make ASC-ECU learn the neutral point. (Refer to P.35C-283.)

Pre-removal operation

- Air bag module assembly and steering wheel assembly removal (Refer to GROUP 37 – Steering Wheel P.37-31).

Post-installation operation

- Airbag module assembly and steering wheel assembly installation (Refer to GROUP 37 – Steering Wheel P.37-31).
- Perform steering wheel calibration. (Refer to P.35C-283).



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Removal steps

1. Clock spring/column switch assembly (Refer to GROUP 54A – Column Switch P.54A-323).
2. Steering wheel sensor

<<A>>

REMOVAL SERVICE POINT

Before March 2010 only

<<A>> STEERING WHEEL SENSOR REMOVAL

CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part by 360° or more.

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:
 2010, 2011 Galant
 2008, 2009, 2010, 2011, 2012 Eclipse/Eclipse Spyder

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

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⚠ WARNING

Before removing the steering wheel and air bag module assembly, refer to GROUP 52B, Service Precautions and Air Bag Module and Clock Spring

⚠ CAUTION

- When centering the clock spring, always remove the clock spring from the column switch in advance. Otherwise, the sensor may be damaged.
- If the clock spring is not correctly aligned, the steering wheel may not be turned or the cable inside the clock spring may be broken, causing the SRS to be inoperative.
- Always carry out steering wheel sensor calibration after the steering wheel sensor has been installed. This is necessary because the TCL/ASC-ECU should update the steering neutral point.

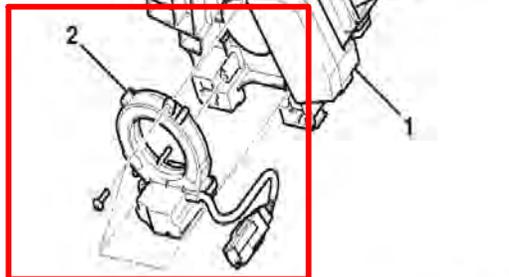
Pre-removal Operation

- Steering Wheel and Air Bag Module Assembly Removal (Refer to GROUP 37, Steering Wheel)

Post-installation Operation

- Steering Wheel and Air Bag Module Assembly Installation (Refer to GROUP 37, Steering Wheel)
- Steering Wheel Sensor Calibration

Before March 2010



REMOVAL STEPS

TURN THE FRONT WHEELS TO THE STRAIGHT-AHEAD POSITION.

Before March 2010

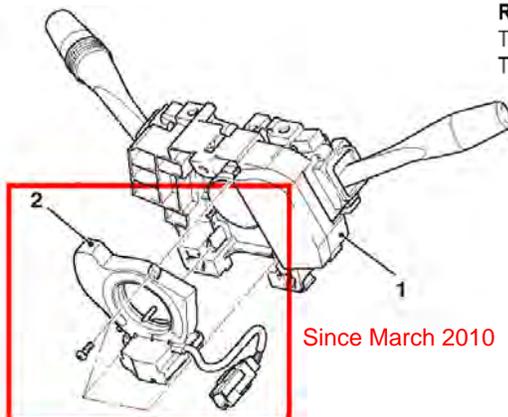
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REMOVAL STEPS (Continued)

1. CLOCK SPRING AND COLUMN SWITCH ASSEMBLY (REFER TO GROUP 52B, AIR BAG MODULE AND CLOCK SPRING

>>A<< 2. STEERING WHEEL SENSOR

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Since March 2010

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:

2010, 2011 Galant

2008, 2009, 2010, 2011, 2012 Eclipse/Eclipse Spyder

Before March 2010

INSTALLATION SERVICE POINT

>>A<< STEERING WHEEL SENSOR NEUTRAL POINT ALIGNMENT

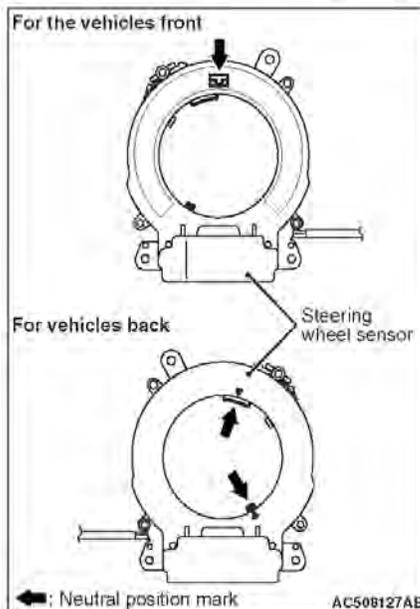
⚠ WARNING

Ensure that the clock spring's mating marks are properly aligned. If not, the steering wheel may not rotate completely during a turn, or the flat cable in the clock spring could be damaged, This would prevent normal SRS operation and possibly cause serious injury to the driver.

1. Align the mating marks of the clock spring.

<Mating Mark Alignment>

- (1) Turn the clock spring clockwise fully. Then turn it back approximately 3-3/4 turns counterclockwise to align the mating marks.
- (2) Then install the clock spring to the column switch.



⚠ CAUTION

Be sure to align the three neutral point marks of the steering wheel sensor at the same time as shown in the figure. If these mating marks are not aligned correctly, the steering wheel sensor may be damaged.

2. Align the three neutral point marks of the steering wheel sensor at the same time as shown in the figure.

<Mating Mark Alignment>

- (1) If the neutral point mark is not seen when the window for checking the neutral point of the steering wheel sensor is checked, turn it to align the neutral point marks as shown in the figure.
- (2) With paying attention not to misalign the neutral position, install the steering wheel sensor to the clock spring and column switch assembly.

NOTE: A new steering wheel sensor has a pin for preventing the rotation of (fixing) the steering wheel sensor. After installing the sensor to the clock spring and column switch assembly, remove this pin.

- (3) Install the clock spring and column switch assembly to the vehicle, maintaining the neutral position correctly.

Since March 2010

REMOVAL SERVICE POINT

<<A>> STEERING WHEEL SENSOR REMOVAL

⚠ CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part.

Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:
 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011 Endeavor

STEERING WHEEL SENSOR

REMOVAL AND INSTALLATION

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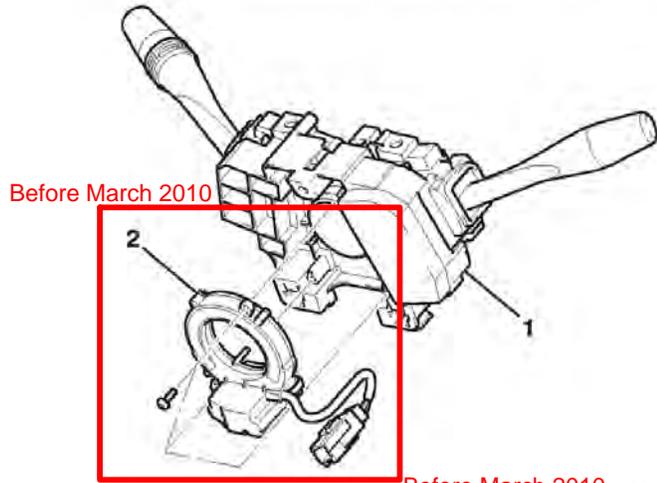
⚠ WARNING

Before removing the steering wheel and air bag module assembly, refer to GROUP 52B, Service Precautions and Air Bag Module and Clock Spring

⚠ CAUTION

Always carry out steering wheel sensor calibration after the steering wheel sensor has been installed. This is necessary because the TCL/ASC-ECU should update the steering neutral point.

Pre-removal Operation	Post-installation Operation
<ul style="list-style-type: none"> Steering Wheel and Air Bag Module Assembly Removal (Refer to GROUP 37, Steering Wheel) 	<ul style="list-style-type: none"> Steering Wheel and Air Bag Module Assembly Installation (Refer to GROUP 37, Steering Wheel) Steering Wheel Sensor Calibration



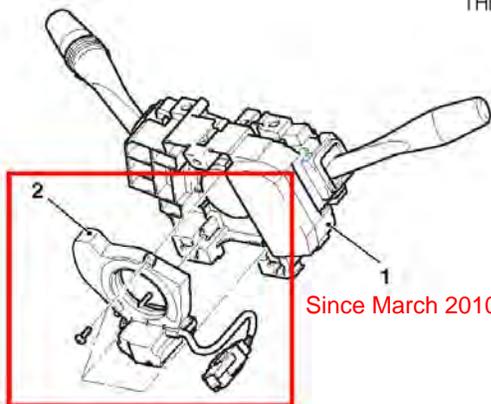
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REMOVAL STEPS
 TURN THE FRONT WHEELS TO THE STRAIGHT-AHEAD POSITION.

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REMOVAL STEPS (Continued)
 1. CLOCK SPRING AND COLUMN SWITCH ASSEMBLY (REFER TO GROUP 52B, AIR BAG MODULE AND CLOCK SPRING

>>A<< 2. STEERING WHEEL SENSOR



Make the following corrections to Group 35C – Steering Wheel Sensor Removal and Installation in the following service manuals:

2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011 Endeavor

Before March 2010

INSTALLATION SERVICE POINT

>>A<< STEERING WHEEL SENSOR NEUTRAL POINT ALIGNMENT

⚠ WARNING

Ensure that the clock spring's mating marks are properly aligned. If not, the steering wheel may not rotate completely during a turn, or the flat cable in the clock spring could be damaged, This would prevent normal SRS operation and possibly cause serious injury to the driver.

1. Align the mating marks of the clock spring.

<Mating Mark Alignment>

- (1) Turn the clock spring clockwise fully. Then turn it back approximately 3-3/4 turns counterclockwise to align the mating marks.
- (2) Turn the front wheels to the straight-ahead position. Then install the clock spring to the column switch.



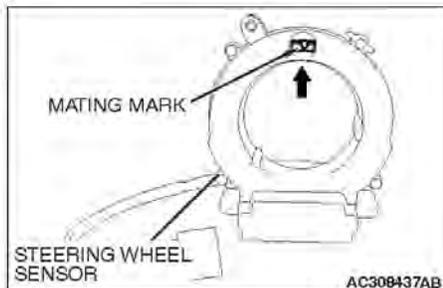
⚠ CAUTION

Ensure that the steering wheel sensor's mating marks are properly aligned. If not, the steering wheel sensor could be damaged.

2. Align the mating marks of the steering wheel sensor as follows.

<Mating Mark Alignment>

- (1) Turn the steering wheel sensor to the arrow direction shown to align the mating marks.
- (2) Align the mating marks on the clock spring and the steering wheel sensor, and install the steering wheel sensor to the column switch assembly.
- (3) Connect the steering wheel sensor connector.



Since March 2010

REMOVAL SERVICE POINT

<<A>> STEERING WHEEL SENSOR REMOVAL

⚠ CAUTION

After removing the steering wheel sensor, do not rotate the sensor rotating part.