LS430

OUTLINE OF NEW FEATURES

The following changes are made for the new LS430.

1. Brake

The control for the pre-crash safety system is added in the skid control ECU on the model with pre-crash safety system. For details, see the pre-crash safety system on page 5.

2. Multiplex Communication

The multiplex communication on the model with the pre-crash safety system is changed as following.

<table>
<tr><th>Item</th><th>Outline</th></tr>
<tr><td>CAN (Control Area Network)</td><td>The seat belt control ECU is added to the CAN.</td></tr>
<tr><td>Diagnosis of CAN</td><td>The following DTCs (Diagnostic Trouble Codes) for a CAN communication error are added. These DTCs are output by the seat belt control ECU.
<table>
<tr><th>DTC No.</th><th>Detection Item</th></tr>
<tr><td>U0100</td><td>Communication interruption from ECM to distance control ECU</td></tr>
<tr><td>U0145</td><td>Communication interruption from gateway ECU to seat belt control ECU</td></tr>
<tr><td>U0235</td><td>Communication error from millimeter wave radar sensor to distance control ECU</td></tr>
<tr><td>U1101</td><td>Communication interruption from distance control ECU to seat belt control ECU or skid control ECU</td></tr>
<tr><td>U1102</td><td>Communication error from distance control ECU to millimeter wave radar sensor</td></tr>
</table></td></tr>
<tr><td>Fail-safe of CAN</td><td>The fail-safe of CAN for the pre-crash safety system is added.
If the distance control ECU detects a short circuit in the CAN bus, this ECU transmits the signal to the skid control ECU and the seat belt control ECU, which exert influence on the pre-crash safety system in the manner described below.</td></tr>
</table>

▶ Influence on Pre-crash Safety System During a Communication Error ◀

<table>
<tr><th>System
Item</th><th colspan="2">Pre-crash Safety System</th></tr>
<tr><td>Skid Control ECU</td><td>Receive ↑</td><td>—</td></tr>
<tr><td>Distance Control ECU</td><td>Transmit</td><td>Transmit ↓</td></tr>
<tr><td>Seat Belt Control ECU</td><td>—</td><td>Receive</td></tr>
<tr><td>Control during CAN bus short circuit detection</td><td colspan="2">Control stop</td></tr>
<tr><td>Diagnosis (Fail alert for driver)</td><td colspan="2">Master warning light illuminates</td></tr>
</table>

3. Combination Meter

Warning messages are added for the pre-crash safety system. For details, see page 10.

4. Pre-crash Safety System (only for Europe Model)

The pre-crash safety system is available as optional equipment for European models. For details, see page 5.

5. Cruise Control System

Along with the addition of the dynamic radar cruise control system to the cruise control system, the cruise control system settings are as follows.

: New

Cruise Control Type	Destination		
	Europe	G.C.C. Countries	Australia
Conventional	Standard	←	←
Dynamic **Laser**	—	—	Option
Dynamic **Radar**	Option*	—	—

*: This is a set option with the Pre-crash safety system.

- The differences and changes between the dynamic **laser** cruise control system and the dynamic **radar** cruise control system are described below. The basic operation and control of the cruise control are the same as those of the dynamic laser cruise control system.

<table>
<tr><th>Item</th><th>Outline</th></tr>
<tr><td>System Diagram</td><td>● The sensor type is changed from a laser sensor to a millimeter wave radar sensor. For details, see page 11.
● A signal for the pre-crash safety system is added to the input/output signals of the distance control ECU.</td></tr>
<tr><td>Control</td><td>Two controls are changed as follows.
<table>
<tr><th>System</th><th>Dynamic Radar</th><th>Dynamic Laser</th></tr>
<tr><td>COAST Switch Control (vehicle-to-vehicle distance mode)</td><td>The vehicle decelerates rapidly by ETCS-i and brake controls</td><td>The vehicle decelerates constantly by ETCS-i control.</td></tr>
<tr><td>Automatic Cancel Control</td><td>Wiper Operation: HI</td><td>Wiper Operation: LO or HI</td></tr>
</table></td></tr>
</table>

- For details, see the dynamic radar cruise control system on page 19.